



Inuinnaqtun:

## Personnel

Personnel on site: 12

Days on site: 60

Total Person days: 720

Period of operation: from 2017-07-01 to 2017-08-31

Proposed term of operation: from 2017-07-01 to 2022-06-30

## Activities

### Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Arcadia Bay Project	Camp	Inuit Owned Surface Lands	The Property has been the focus of mineral exploration since the 1960's. Work by previous companies occurred during the following periods: (1) 1963-1966: mainly prospecting, (2) 1974-1981: primarily trenching and diamond drilling, (3) 1984-1989: primarily diamond drilling, Orofino camp construction, (4) 2003-2004: mapping, rock and historic drill core sampling, (5) 2008-2011: diamond drilling in 2008, decommissioning of old Orofino camp in 2011.	There are no known archaeological/paleontological sites on the Property that the company is aware of. All staff and contractors will be properly trained in identification of potential sites and what to do if a site is located. If an archaeological or paleontological artifact or site is discovered at any stage of the program work in the area will be immediately stopped and the Kitikmeot Inuit Association and the Department of Culture, Language, Elders, and Youth will be notified.	The Property is located approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. The Property is not located within any federal or territorial protected areas, but is adjacent to the Victoria Island Caribou Sea Ice Crossing.
Arcadia Bay Project	Camp	Inuit Owned Sub-Surface Lands	The Property has been the focus of mineral exploration since the 1960's. Work by previous companies occurred during the following periods: (1) 1963-1966: mainly prospecting, (2) 1974-1981: primarily trenching and diamond drilling, (3) 1984-1989: primarily diamond drilling, Orofino camp construction, (4) 2003-2004: mapping, rock and historic drill core sampling, (5) 2008-2011: diamond drilling in 2008, decommissioning of old Orofino camp in 2011.	There are no known archaeological/paleontological sites on the Property that the company is aware of. All staff and contractors will be properly trained in identification of potential sites and what to do if a site is located. If an archaeological or paleontological artifact or site is discovered at any stage of the program work in the area will be immediately stopped and the Kitikmeot Inuit Association and the Department of Culture, Language, Elders, and Youth will be notified.	The Property is located approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. The Property is not located within any federal or territorial protected areas, but is adjacent to the Victoria Island Caribou Sea Ice Crossing.
Arcadia Bay Project	Drilling	Inuit Owned Surface Lands	The Property has been the focus of mineral exploration since the 1960's. Work by previous companies occurred during the following periods: (1) 1963-1966: mainly prospecting, (2) 1974-1981: primarily trenching and diamond drilling, (3) 1984-1989: primarily diamond drilling, Orofino camp construction, (4) 2003-2004: mapping, rock and historic drill core sampling, (5) 2008-2011: diamond drilling in 2008, decommissioning of old Orofino camp in 2011.	There are no known archaeological/paleontological sites on the Property that the company is aware of. All staff and contractors will be properly trained in identification of potential sites and what to do if a site is located. If an archaeological or paleontological artifact or site is discovered at any stage of the program work in the area will be immediately stopped and the Kitikmeot Inuit Association and the Department of Culture, Language, Elders, and Youth will be notified.	The Property is located approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. The Property is not located within any federal or territorial protected areas, but is adjacent to the Victoria Island Caribou Sea Ice Crossing.
Arcadia Bay Project	Drilling	Inuit Owned Sub-Surface Lands	The Property has been the focus of mineral exploration since the 1960's. Work by previous companies occurred during the following periods: (1) 1963-1966: mainly prospecting, (2) 1974-1981: primarily trenching and diamond drilling, (3) 1984-1989: primarily diamond drilling, Orofino camp construction, (4) 2003-2004: mapping, rock and historic drill core sampling, (5) 2008-2011: diamond drilling in 2008, decommissioning of old Orofino camp in 2011.	There are no known archaeological/paleontological sites on the Property that the company is aware of. All staff and contractors will be properly trained in identification of potential sites and what to do if a site is located. If an archaeological or paleontological artifact or site is discovered at any stage of the program work in the area will be immediately stopped and the Kitikmeot Inuit Association and the Department of Culture, Language, Elders, and Youth will be notified.	The Property is located approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. The Property is not located within any federal or territorial protected areas, but is adjacent to the Victoria Island Caribou Sea Ice Crossing.
Arcadia Bay Project	Mineral Exploration	Inuit Owned Surface	The Property has been the	There are no known	The Property is located

		Lands	focus of mineral exploration since the 1960's. Work by previous companies occurred during the following periods: (1) 1963-1966: mainly prospecting, (2) 1974-1981: primarily trenching and diamond drilling, (3) 1984-1989: primarily diamond drilling, Orofino camp construction, (4) 2003-2004: mapping, rock and historic drill core sampling, (5) 2008-2011: diamond drilling in 2008, decommissioning of old Orofino camp in 2011.	archaeological/paleontological sites on the Property that the company is aware of. All staff and contractors will be properly trained in identification of potential sites and what to do if a site is located. If an archaeological or paleontological artifact or site is discovered at any stage of the program work in the area will be immediately stopped and the Kitikmeot Inuit Association and the Department of Culture, Language, Elders, and Youth will be notified.	approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. The Property is not located within any federal or territorial protected areas, but is adjacent to the Victoria Island Caribou Sea Ice Crossing.
Arcadia Bay Project	Mineral Exploration	Inuit Owned Sub-Surface Lands	The Property has been the focus of mineral exploration since the 1960's. Work by previous companies occurred during the following periods: (1) 1963-1966: mainly prospecting, (2) 1974-1981: primarily trenching and diamond drilling, (3) 1984-1989: primarily diamond drilling, Orofino camp construction, (4) 2003-2004: mapping, rock and historic drill core sampling, (5) 2008-2011: diamond drilling in 2008, decommissioning of old Orofino camp in 2011.	There are no known archaeological/paleontological sites on the Property that the company is aware of. All staff and contractors will be properly trained in identification of potential sites and what to do if a site is located. If an archaeological or paleontological artifact or site is discovered at any stage of the program work in the area will be immediately stopped and the Kitikmeot Inuit Association and the Department of Culture, Language, Elders, and Youth will be notified.	The Property is located approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. The Property is not located within any federal or territorial protected areas, but is adjacent to the Victoria Island Caribou Sea Ice Crossing.

#### Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Information is not available			

#### Authorizations

##### Indicate the areas in which the project is located

Kitikmeot

#### Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Kitikmeot Inuit Association	Amendment to land Use Licence KTL113B001 to add camp and drilling	Not Yet Applied		
Nunavut Water Board	Water Licence for camp and drilling	Not Yet Applied		

#### Please indicate the mineral of interest that is being extracted. Include a brief description.

Mineral Type	Description
Base Metals (zinc, copper, gold, silver, etc)	Gold

## Material Use

### Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Fixed-wing aircraft	1	Twin Engine	Mob/demob, resupply food and backhaul waste, etc
Helicopter	1	A-Star, Bell 407, or similar	Transport fuel, equipment & personnel
Diesel generator	1	10 - 20 kW	Power for camp
Water pump - camp	1	General purpose 2" water pump	Water for camp
Water pump - drill	1	Standard for Zinex A-5 or similar	Water for drill
Diamond Drill with generator	1	Helicopter portable. Ie. Zinex A-5 or similar	Drilling for core rock samples
Dual-chamber controlled air incinerator	1	Granite Environmental Vulcan 0.3 (or similar)	Incinerate combustible waste

### Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Diesel	fuel	100	205	20500	Liters	Fuel for drill, camp heat, equipment
Gasoline	fuel	10	205	2050	Liters	Fuel for equipment
Aviation fuel	fuel	50	205	10250	Liters	Fuel for fixed wing and helicopter
Propane	fuel	50	100	5000	Lbs	Fuel for equipment (ie. kitchen)
household-strength cleaning supplies	hazardous	2	5	10	Liters	cleaning
Motor Oil	hazardous	5	20	100	Liters	Oil for engines (ie. drill, generator)

### Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
42	Pumps will be equipped with a fine screen on the intake.	River adjacent to camp and water sources near the drillhole locations, which are yet to be determined.

## Waste

### Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Camp	Combustible wastes	12 people	incineration	ash backhauled
Camp	Greywater	2m3/day	sump	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 the high water mark of any 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.
Drilling	Greywater	40m3/day	sump or natural depression	Drilling greywater will be stored and treated in an excavated sump or natural depression, which will allow for slow infiltration into the soil and will be located at least 31 m away from the high water mark of any 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. 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.
Camp	Hazardous	12 people	Stored in sealed containers within secondary containment until they can be backhauled for recycling or authorized disposal.	Recycling
Camp	Non-Combustible wastes	12 people	Backhauled for recycling or disposal at authorized reciever	Backhauled for recycling or disposal at authorized reciever
Camp	Sewage (human waste)	12 people	Outhouse treated with lime	Pacto system and incineration

**Environmental Impacts:**

All potential environmental effects associated with the proposed Arcadia Bay Project are considered minor, localized effects that can be mitigated. No significant residual impacts to the environment are expected to occur as a result of the implementation of this program. Please see attached Management Plans for mitigation measures.

## Details Part 2

### Project General Information

1. The objective of the current project is to explore for economic gold deposits. 2. Previous exploration surrounding the area has defined the area to be prospective for gold occurrences. More detailed exploration work, including diamond drilling, is justified. A small seasonal camp is required in order to carry out exploration activities in the area. 3. July 1, to August 31, 2017. Similar programs anticipated for the next few years. 4. - Canadian Environmental Protection Act - Fisheries Act - Migratory Birds Convention Act - Transportation of Dangerous Goods Act - Transportation of Dangerous Goods Regulations - Northern Land Use Guidelines - Workplace Hazardous Materials Information System - Freshwater Intake End of Pipe Fish Screen Guidelines - Article 13 – Nunavut Land Claims Agreement - NWB – Water Licensing in Nunavut - DFO – Freshwater Intake End of Pipe Fish Screen Guidelines - DFO – Fisheries Act – s.35 - RWED – Environment Protection – Spill Contingency Regulations - Public Health Act Camp Sanitation Regulations - Public Health Act Water Supply Regulations 5. KIA Land Use Licence - KTL113B001 - Application for amendment to add drilling and camp under review NWB Water Licence – Under Application NIRB Screening Decision – Under Review NPC Conformity Determination – Approved (File No. 148574)

### DFO Operational Statement (OS) Conformity

N/A

### Transportation

1. It is anticipated that all supplies and equipment will be brought to the project area by air from Yellowknife, Cambridge Bay and/or Kugluktuk. IOL parcel CO-31 can be accessed via float or ski-equipped fixed wing aircraft using Salt Lake, located on the northern perimeter of the Property or alternatively using an airstrip associated with the Ulu deposit approximately 95 km to the south or an airstrip at the Tree River Lodge about 20 km to the west. A helicopter will remain onsite to move personnel and equipment around the project area. A barge landing site, located at the north end of the Property may also be utilized. Barge service is available on the Coronation Gulf for a short season in mid to late summer. See Property Location Figure. 2. N/A 3. N/A, No airstrip will be constructed as CO-31 can be accessed via float or ski-equipped aircraft using Salt Lake or by barge. 4. There will be both fixed wing and helicopter flights used for this exploration project. The fixed wing flights will be used as a drop off and pick up from the Project area (such as mob and demob), arriving from Yellowknife, Cambridge Bay, or Kugluktuk, flown at an approximate altitude of 2,000-3,000 m. The helicopter will be used for daily drop off and pick-ups to field locations within the Project area. The helicopter will be flown above 610 m at all times except when required otherwise such as for slinging the drill rig, geophysical surveys and drop off or pick up of field personnel.

### Camp Site

1. There are no existing camp structures at the historic Orofino camp site, but a small (approximately 12 person) camp will be required to support the 2017 exploration program. Structures for the proposed camp may include 1 office tent, 3 sleeping tents, 1 first aid tent, 1 dry, 1 generator/storage shack, and 1 core logging/sample storage shack. The majority of the structures will be insulated Weatherhaven tents, or similar, with plywood floors. 2. It will be a seasonal camp 3. 12 personnel for 60 days from approximately July 1, 2017 to August 31, 2017.

### Equipment

1. Float or ski-equipped fixed-wing aircraft 2. Helicopter (1): A-Star, Bell 407, or similar, to transport equipment & personnel 2. Diesel generator (1): 10 - 20 kW for power for camp 3. Camp Water pump (1): General purpose 2" water pump, for water for camp 4. Drill Water pump (1): Standard for Zinex A-5 drill or similar for water for drill 5. Diamond Drill with generator (1): Helicopter portable rig, ie. Zinex A-5 drill or similar for drilling core rock samples 6. Dual-chamber controlled air incinerator (1): Granite Environmental Vulcan 0.3 (or similar), to incinerate combustible waste

### Water

1. All camp and exploration activities, including drilling, will be within IOL parcel CO-31. The water source for the camp will be a river adjacent to the camp located at approximately 67°43'13"N and 111°23'6" W. The exact location of water sources for drilling is unknown at this stage as targets are still being defined. As soon as drill targets are identified NWB, NIRB, and KIA will be supplied with the coordinates and maps. The water intakes for the camp may use an electrically powered submersible pump with a fine screen (<1/4" openings) on the intake. The drill pumps use a 1" inside diameter suction hose on the diesel pump with a fine screen on the foot valve. For drilling, a fiberglass window screen with a nominal opening size of less than 1/16" is also generally wrapped around the foot valve to prevent the intake of silt and sand into the pump, which can cause considerable damage to the pump chambers. In addition, it is common practice for the drilling contractor to place the foot valve of the intake hose in a perforated 20L pail, which further protects against harmful materials and fish being entrained into water intake hoses. 2. 2 m<sup>3</sup>/day for camp use, 40 m<sup>3</sup>/day for drilling 3. 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 the ordinary high water mark of any 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. Drilling will utilize recirculation and filtration systems to minimize loss of water and drill additives. Bio-degradable drilling fluids will be used at all times where ever possible. Drilling fluids will be directed of in a properly constructed sump or an appropriate natural depression, at least 31 m from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created 4. N/A

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

1. Sewage To control sewage pathogens, privy pits (outhouses) will be periodically treated with lime. When full, the pits will be covered with at least 30 cm of compacted soil. Alternately, a paco toilet system will be used and the waste incinerated. Camp grey water 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 the ordinary high water mark of any 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. Combustible solid waste Combustible solid waste will be incinerated with an Environment Canada approved batch waste, controlled air, dual chamber incinerator. Incinerator ash will be stored in appropriate containers until it can be removed from site for disposal at an accredited facility. Non-combustible solid waste, including bulky items/scrap metal Effort 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. Hazardous waste or oil 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. Contaminated soils/snow Any contaminated soil, snow, or ice will be cleaned up immediately in accordance with the "Spill Contingency and Fuel Management Plan." All contaminated soil, snow, and ice will be sealed in 205 L steel drums and stored in the hazardous waste storage area to await backhaul to a registered hazardous waste receiver. 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, backhauled to a recycling facility. Any other waste produced Waste management operations at the Property 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.

### Fuel

1. Diesel (100): 205 L Drums Jet Fuel (50): 205 L Drum s Gasoline (10): 205 L Drums Propane (50): 100 lb Cylinders Fuel will be stored in a fuel cache near the camp, at the drill sites and possibly at the barge landing and in small remote fuel caches. The fuel will be stored a minimum 31 m from the normal high water mark of any waterbody. 2.

Arctic Insta-Berms (or similar) will provide secondary containment. All fuel caches 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 in close proximity to where any fuel is stored or transferred. 3. Fuel will be transferred by hand held pump or grounded electric pump directly from fuel drums to helicopter, drill, 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. 4.No drilling will be performed, sump created, or fuel and/or hazardous chemical 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 Emergency Response Plan and Spill Contingency and Fuel Management Plan. For additional spill control measures, see the Arcadia Bay Spill Contingency and Fuel Management Plan.

## Chemicals and Hazardous Materials

1. 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 to and from camp via either fixed-wing or helicopter, as needed, and backhauled to Kugluktuk, Cambridge Bay or, if required, Yellowknife. All containers storing hazardous materials will be inspected for dents, punctures, etc. prior to being slung. 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 When drilling commences, an average of approximately 100 L of motor oils and hydraulic oils will be maintained at the camp. The products will be supplied in 1L or 20 L plastic containers and stored in the generator enclosure. 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, diesel engines on the drill rigs, gasoline engines in small equipment such as portable electrical generators and turbine lubricants in helicopters and fixed wing aircraft. The containers will be stored on spill containment pallets. Drill Mud/Additives All drill additives will be non-toxic and biodegradable, whenever possible. The diamond drilling may use modest amounts of additives depending on rock conditions. When drilling is under way, the contractor responsible will store the required drilling muds, additives, oils and lubricants in a temporary shed at drill site or camp; upon annual termination of the project, these materials will be removed via back haul to Kugluktuk, Cambridge Bay, or if required, Yellowknife, to be properly disposed of. The drill additives will be transferred according to the manufacturer's guidelines and the operating procedures of the drill contractor. Antifreeze Any winter drilling programs will utilize non-toxic Beet Juice Antifreeze. Lead Acid Batteries Lead acid batteries will be present on the drill rigs and 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, see the Arcadia Bay Property Spill Contingency and Fuel Management Plan. 2. Secondary containment measures for chemical products will be provided according to the nature of the chemical (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 generally be kept 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 a shop, core shack or kitchen. All other material (soaps, cleansers, degreasers, javex, etc.) will be securely stored in the storage area/tent until required. 3. 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. 4. 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 Arcadia Bay Property Spill Contingency and Fuel Management Plan.

## Workforce and Human Resources/Socio-Economic Impacts

1. Transition Metals Corporation and Nunavut Resources Corporation will hire local Inuit wherever possible. The companies will attempt to hire Inuit from Kugluktuk or Cambridge Bay for seasonal camp duties, core processing technicians and/or wildlife specialists. All persons will be fully trained onsite and be provided with appropriate personal protective equipment (PPE). 2. Local hires will generally work a rotation of at least 2 weeks in camp with the next 2 weeks off. Other personnel may work up to six weeks at a time, depending on the job and the time of year. 3. Transition Metals Corporation and Nunavut Resources Corporation will hire local Inuit beneficiaries and purchase locally wherever possible.

## Public Involvement/Traditional Knowledge

1. The Arcadia Bay Property is located on IOL Parcel CO-31 in the Kitikmeot Region of Nunavut, within the 1:50,000 scale NTS map sheet 76M/11. The Property is located approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. Additional interested Parties may include: - Nunavut Planning Commission - Nunavut Impact Review Board - Nunavut Water Board - Kitikmeot Inuit Association - Nunavut Tunngavik Incorporated - Government of Nunavut – Culture Language Elders and Youth (GN-CLEY) - Government of Nunavut – Department of Environment (GN-DoE) - Environment Canada (EC) - Transport Canada (TC) 2. Transition Metals Corp. and Nunavut Resources Corp., a wholly-owned subsidiary of the Kitikmeot Inuit Association, are working under an alliance partnership which holds the MEA with Nunavut Tunngavik Inc. The Kitikmeot Inuit Association notified Transition Metals Corporation that there would be no requirement for a community consult as the project requires a consult of the Kitikmeot Inuit Association with the Community Beneficiary Committee's, who act as their land advisors. 3. N/A 4. Traditional knowledge will be obtained through consultations with any and all affected or interested parties. 5. Transition Metals Corporation and Nunavut Resources Corporation anticipate likely meeting with the Hamlet Office and HTO of Kugluktuk and any other interested parties, prior to commencement of this program.

## SECTION B: Mineral Exploration: Project Information

Gold

## SECTION B: Mineral Exploration: Exploration Activity

1. Exploration drilling Geophysical work (ground nd/or air) Other (till sampling and prospecting) 2. Soil/till sampling On land drilling (diamond drilling) Other (prospecting)

## SECTION B: Mineral Exploration: Geosciences

1.b. Magnetic d. Electromagnetic 2. a. Geological Mapping e. Other (prospecting) 3. All exploration will be restricted to the IOL Parcel CO-31. See Property Location figure. 4. Aircraft will only fly lower than 610 m when required, such as for airborne geophysical surveys, dropping off or picking up field crews, moving the drill or in an emergency.

## SECTION B: Mineral Exploration: Drilling

1. The proposed exploration will include an estimated 12 hole diamond drill program, totalling approximately 2,500 m. More information including coordinates, individual hole depths, and maps will be provided to KIA, NWB and NIRB when drill targets are identified. 2. The exact drill additives are not known at this time, but Transition Metals Corporation and Nunavut Resources Corporation will ensure that the drilling contractor maximizes the use of non-toxic and biodegradable additives. The Arcadia Bay Property Spill Contingency and Fuel Management Plan will be updated with appropriate MSDS sheets once any additional additives are determined. However, until confirmed, it is assumed that the following materials may potentially be present at the drill site: • drill fluid additive "550X polymer" (consists of copolyacrylamide / sodium acrylate; Non Toxic) • tube grease - Beacon 2, Z-50 pipe dope (Non Toxic) • circulation polymer - G-stop (Non Toxic) • antifreeze - Beet juice antifreeze (Non Toxic) • rod grease - Big Bear diamond drill rod grease (Non Toxic) • motor oil - super plus SAE 10W30 and 15W-40 (Non Toxic) • hydraulic oil - Harmony AW 22, 32, 46, 68 (Non Toxic) • Linseed Soap - (Non Toxic) 3. The drill waste, including water, cuttings and muds will be disposed of in a properly constructed sump or an appropriate natural depression; at least 31



m from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created. 4. Drilling will utilize recirculation and filtration systems to minimize loss of water and drill additives. Bio-degradable drilling fluids will be used at all times where ever possible. Drilling fluids will be directed into a properly constructed sump or an appropriate natural depression, at least 31 m from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created. If any artesian water flow is detected, the hole will be plugged immediately and cemented in bedrock to prevent continued flow. 5. The drill, equipment and accessories (pumps, hose, tanks, etc.) will be mobilized to the Property by charter fixed-wing aircraft and then slung by Helicopter to site. 6. If later relocation of the hole is not required, casing will be removed whenever possible. Any remaining/fused casing will be cut off to ground level or below and capped. Any holes with flowing water will be permanently sealed unless written instruction from the relevant authority is received to indicate otherwise. 7. N/A

## **SECTION B: Mineral Exploration: Stripping/Trenching/Pit Excavation**

## **SECTION B: Mineral Exploration: Underground Activities**

## **SECTION B: Mineral Exploration: Waste Rock Storage and Tailings Disposal**

## **SECTION B: Mineral Exploration: Stockpiles**

## **SECTION B: Mineral Exploration: Mine Development Activities**

## **SECTION B: Mineral Exploration: Geology and Mineralogy**

## **SECTION B: Mineral Exploration: Mine**

## **SECTION B: Mineral Exploration: Mill**

## **Description of Existing Environment: Physical Environment**

Proximity to protected areas, including: i. designated environmental areas, including parks; The Property is not located within any federal or territorial protected Areas. As the Property is located along the shore of Arcadia Bay, south of the Coronation Gulf, it is adjacent to the Victoria Island Caribou Sea Ice Crossing. There are a number of protected areas near the Property including the Bathurst Elu Inlets Bird Habitat, approximately 60m km to the north-east; a caribou freshwater crossing, approximately 50 km south-west; and a caribou calving area, approximately 80 km to the south-east. ii. heritage sites; There are no known heritage sites on the Property. iii. sensitive areas, including all sensitive marine habitat areas; As the Property is located along the shore of Arcadia Bay, south of the Coronation Gulf, it is adjacent to the Victoria Island Caribou Sea Ice Crossing. iv. recreational areas; There are no known recreational areas on the Property. v. sport and commercial fishing areas; There are no known sport and commercial fishing areas on the Property. vi. breeding, spawning and nursery areas; There are no known breeding, spawning and nursery areas on the Property. vii. known migration routes of terrestrial and marine species; There are no known migration routes on the Property as defined by the GN shapefiles. viii. marine resources; Marine resources should not be affected by this project. ix. areas of natural beauty, cultural or historical history; All efforts will be made to respect and preserve all natural, cultural or historical resources. x. protected wildlife areas; and There are no protected wildlife areas within the project boundary of which the company is aware. xi. other protected areas. There are no other protected areas within the project boundary of which the company is aware. Eskers and other unique landscapes (e.g. sand hills, marshes, wetlands, floodplains) Sand hills are noted just outside of the north-west perimeter of the Property boundary. The company is unaware of any other unique landscapes within the Property, but considers all landscapes to be critical to the natural environment and as such all areas of the Property will be treated with care and respect. Any seemingly unique and fragile landscapes will be avoided. Evidence of ground, slope or rock instability, seismicity. There is no evidence of ground, slope, rock instability or seismicity within the boundary of the Property of which the company is aware. Evidence of thermokarsts. There is no evidence of the presence of thermokarsts within the boundary of the Property of which the company is aware. Evidence of ice lenses. There is no evidence of the presence of ice lenses within the boundary of the Property of which the company is aware. Surface and bedrock geology. The Anialik River Igneous Complex underlies the majority of the Arcadia Bay Property, with the Anialik River Greenstone Belt underlying the north-western area, and the Golfing Lake gabbro outcropping in the southwest corner. Mackenzie diabase dykes are common and trend northwest throughout the area. Topography. The Property is characterized by rolling, outcrop-dominated hills with relatively minor flat, muskey dominated lowlands. The land rises gently toward the southeast and south with elevations ranging from sea level to a maximum of 140 metres. Bedrock exposure on the property is extensive, ranging from more than 75% in the highland areas to 10 to 20% outcrop in low lying and drift covered areas. Permafrost (e.g. stability, depth, thickness, continuity, taliks). The entire region is subject to continuous permafrost, extending to depths of 400 to 500 metres. Sediment and soil quality. Flat areas are dominated by felsenmeer and cryoturbated soils. Cryoturbation produces features such as frost boils, ice-wedge polygons, stone nets and stone stripes. Hydrology/limnology (e.g. watershed boundaries, lakes, streams, sediment geochemistry, surface water flow, groundwater flow, flood zones). Numerous lakes occur on the Property and it is bisected by Arcadia Creek, which flows from south to north entering the head of the inlet immediately to the west of Salt Lake. The Property is not located within any community watersheds or flood zones. The project should not have any effect on watersheds, lakes, streams, sediment geochemistry, surface water flow, or groundwater flow. Tidal processes and bathymetry in the project area (if applicable). N/A Water quality and quantity. Water quality on the Property appears to be abundant and pristine. All efforts will be made to keep water quality as close to pristine as possible. Air quality. All pollutants will be kept to an absolute minimum. Climate conditions and predicted future climate trends. The area has a continental climate with low levels of precipitation and a wide temperature range. Summers are typically brief with long daylight hours, whereas winters are long and extremely cold with average temperatures below -30°C. Noise levels. Will be kept to an absolute minimum. Other physical Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review. None known at this time.

## **Description of Existing Environment: Biological Environment**

Vegetation (terrestrial as well as freshwater and marine where applicable). Vegetation at the Property consists mainly of moss, lichens, stunted plants, and Arctic grasses. The grasses are typically observed growing at lower elevations in areas associated with river drainage basins. Wildlife, including habitat and migration patterns. Typical wildlife expected to be on or near the Property include caribou, muskox, Arctic fox, hare, and lemmings. Birds, including habitat and migration patterns. The proposed activities should not interfere with bird habitat and migration patterns. Species of concern as identified by federal or territorial agencies, including any wildlife species listed under the Species at Risk Act (SARA), its critical habitat or the residences of individuals of the species. Aquatic (freshwater and marine) species, including habitat and migration/spawning patterns. The proposed activities should not interfere with marine species. Screens will be placed over water intakes for the camp and drills to ensure no entrapment of freshwater species. Other biological Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review. The area has been defined as a char area of abundance.

## **Description of Existing Environment: Socio-economic Environment**

Proximity to communities. The Property is located approximately 605 km north of Yellowknife, NT, 305 km south of Cambridge Bay (Iqaluktuutiaq), NU, and 160 km east of Kugluktuk (Qurluktuk), NU. Archaeological and culturally significant sites (e.g. pingos, soap stone quarries) in the project (Local Study Area) and adjacent area (Regional Study Area). The company is currently not aware of any archaeological and/or culturally significant sites on the Property. Palaeontological component of surface and bedrock geology. The company is currently not aware of any palaeontological sites on the Property. Land and resource use in the area, including subsistence harvesting, tourism, trapping and guiding operations. Property is located within an area of Traditional Land Use. Local and regional traffic patterns. This project is not anticipated to have any effect on local or regional traffic patterns. Human Health, broadly defined as a complete state of wellbeing (including physical, social, psychological, and spiritual aspects). This project is not anticipated to have any effect on human health. Other Valued Socioeconomic Components (VSEC) as determined through community consultation and/or literature review. The area has been defined as having a high Mineral Potential.

## **Identification of Impacts and Proposed Mitigation Measures**

1. The Impacts tab outlines activities associated with the Arcadia Bay Property, including work related to the camp, exploratory drilling and general regional exploration, which may impact environmental, social, economic and health components. It is noted where the potential for interaction exists, which subsequently, can be used to determine potential impacts. 2. Potential Impacts and Mitigation: PHYSICAL AND BIOLOGICAL Designated Environmental Areas: There are no known protected areas in the vicinity of the Property (see point i. the Physical Environment portion of Section 4, "Description of the Existing Environment" for more information. Ground Stability: The proposed drilling program and the size and duration of use for the proposed camp, is not likely to cause any impact on the permafrost or stability of the ground. Permafrost: Permafrost can be impacted by camp activities. Mitigation measures to reduce the impact include limiting the amount of vegetation disruption to ensure proper shade coverage and reduction in the potential for ground thaw and subsidence. Footpaths can be marked using stakes and flagging tape to ensure that impacts to vegetation are confined to a small area or boardwalks can be built between camp buildings to reduce damage to vegetation on high-traffic footpaths. Areas that have patterned ground, clay-rich soil and or wetlands will be avoided. Heat radiating from camp buildings may thaw permafrost, so all heated camp structures will be slightly elevated above the ground to allow air circulation. Surface Water Hydrology: Surface water hydrology can be disrupted from removal of water for camp use and drilling. Water use at the camp will be drawn from an applicable water source near camp. Extraction volumes to sustain 12 people will be approximately 2 m<sup>3</sup> per day, which will not impact hydrology or aquatic habitat. Drilling could use up to 40 m<sup>3</sup> per day and will be drawn from adjacent creeks/ponds/lakes/rivers. The water intakes for camp and drilling will be screened as per DFO requirements to prevent fish entrapment at the pumps. Disturbance to the water bodies, beds or banks will be minimized by placing temporary pump placement platforms. The water level of any source body of water will never be drawn down. Water Quality: Surface water quality may be affected by fuel and toxic material spills (including drill slurry) and grey water disposal. The measures noted in the Spill Prevention and Response Plan will mitigate for surface water quality impacts from spills. Sediment and drill fluids are also issues for surface water. Biodegradable drill additives will be used whenever possible. Any residual drill water, including cuttings and additives, will be contained in sumps. Sumps will be positioned down slope from the drill collar in such a manner that runoff flows into the sump. Sumps will be positioned a minimum of 31 metres from the normal high water mark of any water body. Activities that may result in sedimentation will be avoided. Climate Conditions: The proposed drilling program and the size and duration of use for the proposed camp, is not likely to cause any impact on climate conditions. Eskers and Other Unique or Fragile Landscapes: Transition Metals Corporation and Nunavut Resources Corporation consider all landscapes to be critical to the natural environment of the area and will treat with care and respect. Any seemingly unique and fragile landscapes will be avoided. Surface and Bedrock Geology: The proposed drilling program and the size and duration of use for the proposed camp, will not cause any impact on surface or bedrock geology. The exploration and diamond drilling programs will help to add new information about the geology of the area. Sediment and Soil Quality: Soil quality can be impacted from spills of fuel and other materials, waste discharge and drilling. Preventative measures include appropriate and approved storage locations and containers with secondary containment. The camp and all fuel, hazardous materials and drilling will be a minimum 31 metres away from any watercourses. Re-fueling will be done with precision and appropriate due-diligence will be taken. Drums and hoses will be inspected regularly for leaks and pans or absorbent pads will be placed below fuel transfer areas and stationary machinery. See the Spill and Response Plan attached for more information. Tidal Processes and Bathymetry: N/A Air Quality: Impacts on air quality can result from discharge of exhaust from helicopters, drilling operations and diesel generators, as well as emissions from incineration. Given the remote location with lack of air quality issues which currently exists within the project location, the short duration and small scope of activities are not expected to result in any measurable air quality impacts. An Environment Canada approved batch waste, controlled air, dual chamber incinerator will be selected to burn combustible waste, therefore reducing harmful emissions. Noise Levels: Noise can result from the use of helicopters and drills, and to a lesser degree from activities within the camp, which can disturb wildlife. Mitigation measures include, but are not limited to: helicopter avoidance of any birds' nests, bear and wolf dens, waterfowl and shorebird staging areas during critical seasons, and near large mammals. In addition, drill activities and associated work will cease if caribou cows and/or calves appear nearby. Vegetation and Wildlife Habitat: Vegetation can be disturbed by clearing/grading at camp, high traffic footpaths and drilling activities. During drilling, if any soil is required to be removed, it will be set aside and replaced at the completion of the drill hole. Any topsoil (if present) will also be stored and covered at the camp site for re-use later during reclamation at abandonment. See the permafrost section above for more vegetation disturbance mitigation measures. Wildlife, Birds and Aquatic Species (including habitat and migration patterns): Wildlife can be displaced through loss of habitat, disturbed by noise (helicopter, generators, drilling), or human interaction. Habitat loss can result in displacement of animals. Disturbance can cause stress-induced health problems and mortality. Physical fish habitat (stream beds) could be impacted from drill activity. Water extraction at the camp and drill site, as well as water quality impacts (resulting from fuel or other toxic materials) can ultimately affect fish populations. Mitigation procedures for reducing the impact of activities on wildlife will include, but not be limited to the following: - All personnel will be trained on wildlife-human interaction/encounters procedures. - Pre-drilling reconnaissance site visits prior to drilling activities will assist in identifying sensitive wildlife habitat. - Wildlife sightings will be recorded and this information will be passed on to other members of the crew; - Proper storage of hazardous materials, garbage, food and any other potential attractants will be ensured to avoid exposure to wildlife; - All personnel will be aware of, and will follow, wildlife deterrence techniques (including proper storage and disposal of food) to reduce the possibility of attracting wildlife to the camp and drill areas; - All personnel will have bear safety training and will be aware of the penalties for shooting polar bears, even in self defense. - Operations will be modified or suspended if there is a potential to affect seasonal migration or nesting activities. - Appropriate screens will be placed over all water intakes at camp and at the drill in order to reduce the potential for fish entrapment. - The amount of water used for the camp or drill from any source body of water will never cause a drawn down. See above comments in Noise Levels and Vegetation and Wildlife Habitat for additional information about wildlife disturbance mitigation measures. SOCIO-ECONOMIC Archaeological and cultural historic sites: Work in remote areas may help identify new archaeological and/or paleontological sites. These important historic sites can be disturbed or destroyed if proper precautions are not taken. All staff and contractors will be properly trained in identification of potential sites and what do to when a site is located. If an archaeological or paleontological artifact or site is discovered at any stage of the program, work in the area will be immediately stopped and the territorial government and Department of Culture, Language, Elders and Youth will be notified. Nothing will be removed, disturbed, or displaced at any archaeological or paleontological site. Employment: Transition Metals Corporation and Nunavut Resources Corporation believe that it is essential to develop the project in cooperation with local communities. The proposed exploration program will provide seasonal employment and training opportunities for local Inuit in camp and as guides in the field whenever possible. Community wellness: Whenever possible, goods and services will be sourced from local businesses. Transition Metals Corporation and Nunavut Resources Corporation are committed to engaging communities in an open and honest manner and would appreciate and consider any and all knowledge, advice and input received. With proper mitigation, the project should not affect land and water use, traditional use or cultural resources. Human Health: As the project is located at a remote site removed from immediate interaction with local communities, no impact to local human health is expected. 3. See "Socio-Economic" portion of section 4. The project is not likely to cause any transboundary effects. 5. No adverse effects of the project are anticipated on species listed under the Species at Risk Act (SARA) and their critical habitats or residences. Transition Metals Corporation and Nunavut Resources Corporation recognize that with any project, there is a potential for activities to negatively affect wildlife, and of greatest concern, affect species at risk. Although all wildlife will be protected and treated with respect during all activities at the Arcadia Bay Property, special consideration will be given to species listed under the Species at Risk Act (SARA) and their critical habitats or residences. All observations of wildlife will be recorded and submitted to all interested parties, including the Department of Environment and Natural Resources, annually and any human-wildlife interaction will be reported immediately. 6. See comments in section "5. IDENTIFICATION OF IMPACTS AND PROPOSED MITIGATION MEASURES."

## Cumulative Effects

All potential environmental effects associated with the proposed Arcadia Bay Project are considered minor, localized effects that can be mitigated. No significant residual impacts to the environment are expected to occur as a result of the implementation of this program. While individually no significant effects are anticipated, consideration should be made to the combination of all existing or known planned activities within the vicinity of the project area. Some cumulative effects can be positive, such as the case with the establishment of the diamond mines in the NWT; more residents are finishing high school and earning higher salaries. Other positive cumulative effects can be increased employment rate, infrastructure and potential for investment in communities by government. Cumulative effects may also be negative and therefore attention should be given to the potential for these to occur in advance of project growth. Cumulative effects on the land might include changes to the number of wildlife, increases in non-native plants, or the melting of permafrost. Other potential or current projects in the area include MMG's proposed port in nearby Grays Bay, approximately 25 km to the east and their High Lake Deposit, approximately 40 km to the southeast.

Impacts

Identification of Environmental Impacts																			
	P H Y S I C A L	Designated environmental 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	B I O L O G I C A L	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas
S O C I O - E C O N O M I C																			
	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health														
Construction																			
Camp	-	-	-	-	-	-	-	-	M	-	M	M		M	M	M	-	-	P
Drilling	-	-	-	-	-	-	-	-	M	-	M	M		M	M	M	-	-	P
Operation																			
Camp	-	-	-	-	-	-	-	-	M	-	M	M		M	M	M	-	-	P
Drilling	-	-	-	-	-	-	-	P	-	-	M	M		-	M	M	-	-	P
Decommissioning																			
Camp	-	-	-	-	-	-	-	-	M	-	M	M		M	M	M	-	-	P
Drilling	-	-	-	-	-	-	-	-	M	-	M	M		M	M	M	-	-	P

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Map





