NIRB Application for Screening #125073

Coppermine River Transect

Application Type:	New
Project Type:	Research
Application Date:	2/13/2017 12:39:21 PM
Period of Operation:	From 2017-07-10 to 2017-08-12
Proposed Authorization:	From 2017-07-10 to 2017-08-12
Project proponent:	Robert Rainbird 601 Booth St. Ottawa Ontario K1A 0E8 Canada Tel: 6139432212, fax:

DETAILS

Non-technical project proposal description

English: Project: Coppermine River Transect Activities: Fieldwork is proposed to acquire geological observations and collect rock samples for laboratory analysis. Results of fieldwork in the area will contribute to acquiring state-of-the-art data, updated maps, and related publicly available publications. An approximately 3-km thick exposure of sedimentary and volcanic rock can be observed and sampled between Dismal Lakes and Kugluktuk along the Kendall and Coppermine rivers. Work consists of visual examination, description, measurement, and photography of outcrops. GPS units and satellite imagery will be used to locate samples and rock outcrops. Work is mainly done on foot by small crews (2-4 people). Samples are collected using hammers and chisels and cached at campsites for helicopter pick-up. Samples are sent south to be analyzed in laboratories to update geological information and improve understanding of the area's rock record. Necessity: Currently available bedrock geology maps and related geoscience information for the area are based on a reconnaissance survey done more than 45 years ago and smaller studies since. Proposed work will lead to more complete and accurate geoscience information contributing to informed land use decisions. Duration: Fieldwork in the area, described above, is planned from July 10 – August 12, 2017. Analysis of samples and interpretation of the data resulting from the fieldwork will be conducted from the Geological Survey of Canada, Ottawa office and will be completed by March 31, 2020. Transportation: A fixed wing aircraft will be used to deploy 6 people to Camp 1 (Fig. 1) and move them to Camp 2. At Camp 2, and two other sites, a helicopter will move personnel to localities for one day at each site, and return to Kugluktuk with samples; no fuel caches required. A team of 10 will travel by canoe from Camp 2 to 3. At Camp 3, 6 people will arrive by float-plane and 4 will return to Yellowknife. A team of 12 will travel to Kugluktuk via canoe down the Kendall and Coppermine rivers camping for 1-2 days at various locations along the rivers. A charter aircraft will transport personnel, equipment, and samples to Yellowknife at the end of fieldwork. Structures/Restoration: Only two-person tents will be erected at campsites. "Leave no trace" principals will be applied to ensure sites are restored to natural conditions. Photos will be taken to document use of campsites. Waste will be flown out and properly disposed of in Kugluktuk. Alternatives: The alternative to collecting new field data is using existing data. There are not sufficient existing data to improve the geological interpretation of the area. Long-term: No long-term development of the area is planned by the project. Data, including maps analytical results and photographs will be managed by the GSC over the long-term and publically available, providing local communities, governments, industry, and the public access (at least 20 years). An activity report is published within 3 months of fieldwork and provided to local communities as a follow up to initial engagement. See attached description document with map, and separate map image (Fig. 1).

French: Projet : Transect le long de la rivière Coppermine Activités : On propose des travaux sur le terrain d'observations géologiques et de collecte d'échantillons de roches qui seront analysés en laboratoire. Les résultats de ces travaux dans la région contribueront à l'acquisition de données modernes, à l'actualisation des cartes et à la révision des publications qui y sont liées. Il est possible d'observer et d'échantillonner des affleurements d'environ 3 km d'épaisseur de roches sédimentaires et volcaniques entre les lacs Dismal et Kugluktuk le long des rivières Kendall et Coppermine. Les travaux consistent à observer, à décrire, à mesurer et à photographier ces affleurements. Des appareils GPS et des images satellitaires serviront à localiser les lieux d'échantillonnage et les affleurements rocheux. Les travaux seront principalement exécutés à pied par de petites équipes (deux à quatre personnes). Les échantillons seront recueillis à l'aide de marteaux et de ciseaux et laissés dans une cache, dans les campements où l'hélicoptère passera les ramasser. Les échantillons seront envoyés dans le Sud où ils seront analysés en laboratoire afin d'améliorer et d'enrichir les connaissances géologiques de la région. Besoin : Les cartes du substrat rocheux actuellement disponibles et les données géoscientifiques de la région proviennent d'une étude de reconnaissance réalisée il y a plus de 45 ans, et d'études subséquentes de moindre ampleur. Les travaux proposés permettront de recueillir des données géoscientifiques plus complètes et plus précises qui contribueront à prendre des décisions éclairées sur l'utilisation des terres. Durée : Les travaux de terrain décrits ci-dessus seront réalisés du 10 juillet au 12 août 2017. L'analyse des échantillons et l'interprétation des données récoltées auront lieu dans les locaux de la Commission géologique du Canada à Ottawa et prendront fin d'ici le 31 mars 2020. Transport : Un avion sera utilisé pour transporter six personnes au camp 1 (figure 1) et les transférer au camp 2. Depuis le camp 2 et deux autres endroits, un hélicoptère transportera le personnel aux lieux d'étude (une journée à chaque site) et retournera à Kugluktuk avec les échantillons; aucune cache de carburant n'est

nécessaire. Une équipe de dix personnes se déplacera en canot du camp 2 au camp 3. Au camp 3, six personnes arriveront par hydravion et quatre retourneront à Yellowknife. Une équipe de douze personnes se rendra à Kugluktuk en canot en descendant les rivières Kendall et Coppermine et campera pendant un à deux jours à divers lieux le long des rivières. Un avion nolisé transportera le personnel, l'équipement et les échantillons vers Yellowknife à la fin des travaux de terrain. Structures/restauration : Seules des tentes à deux places seront utilisées pour les campements. On appliquera les principes de campement écologique de manière à ce que les sites retournent à leur condition d'origine. Des photos seront prises pour garder une trace de ce qui a été fait dans les campements. Tous les déchets seront rapportés à Kugluktuk et éliminés de façon appropriée. Solutions de rechange : La collecte de nouvelles données sur le terrain pourrait être remplacée par l'exploitation des données existantes. Or, il n'y a pas assez de données pour améliorer l'interprétation de la géologie de la région. Long terme : Aucun développement à long terme n'est prévu dans la région dans le cadre de ce projet. Les données, y compris les cartes, les résultats d'analyse et les photographies, resteront sous la direction de la CGC qui les rendra publiques auprès des collectivités, gouvernements et entreprises de la région ainsi que de la population en général (pendant au moins 20 ans). Un rapport d'activité sera publié dans les trois mois suivant les travaux de terrain et distribué aux collectivités locales pour faire suite à l'engagement pris au départ. See attached description document with map, and separate map image (Fig. 1).

Inuktitut: Translation and accompanying translated document to be provided, as confirmed by e-mail from Jaida Ohokannoak, sent Wed 2017-02-22 15:52.

Personnel

Personnel on site: 10

Days on site: 5

Total Person days: 50

Period of operation: from 2017-07-10 to 2017-08-12

Proposed term of operation: from 2017-07-10 to 2017-08-12

ACTIVITIES

Project Activities

Location	Activity Type	Land Status	Site History	Site Archaeological or Palentological Value	Proximity to the nearest communities and any protected areas
Coppermine River Transect Activity Area - Nunavut	Sampling sites	Crown	Area covers 13, 1:50 k NTS sheets. Fieldwork will only occur in close proximity to campsite, helicopter, and canoe route locations. No previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk which falls within the proposed study area. All other communities are more than 200 km away from the perimeter of the study area. The area overlaps or is in close proximity to Caribou Calving Areas, a Caribou Post Calving Area, Kugluk/Bloody Falls Territorial Park, and a Caribou Freshwater Crossing.
Coppermine River Transect Activity Area - NWT	Sampling sites	Crown	Area covers 2, 1:50 k NTS sheets. Fieldwork will only occur in close proximity to one campsite. There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community, Kugluktuk, is 135 km NE of the proposed study area. All other communities are more than 200 km away from the perimeter of the study area. The area is 15 km SW of Caribou Calving Areas.
Coppermine River Transect Canoe Route	Sampling sites	Crown	Fieldwork on foot is planned in close proximity to this route. There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk. All other communities are more than 200 km away from this route. The site is located within lands designated to have Caribou Calving Areas and passes through Kugluk/Bloody Falls Territorial Park.
Coppermine River Transect Camp 1 Dease Lake	Camp	Crown	Fieldwork on foot in close proximity to this campsite is planned. There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community, Kugluktuk, is 160 km NE of the proposed campsite. All other communities are more than 200 km away from this location. The site is at least 40 km SW of lands designated to have Caribou Calving Areas.
Coppermine River Transect Camp 2 Dismal Lakes	Camp	Inuit Owned Surface Lands	Location is within IOL PARCEL CO-53. Fieldwork in close proximity to	(N/A) The project activity is not aware of any archaeological / paleontological sites of	The nearest community, Kugluktuk, is 88 km NE of the proposed

			this campsite is planned, with two days of helicopter support. There has been no previous activity by this project in the area.	value.	campsite. All other communities are more than 200 km away from this location. The site is located within lands designated to have Caribou Calving Areas.
Coppermine River Transect Camp 3 Coppermine River	Camp	Crown	Fieldwork on foot is planned in close proximity to this campsite. There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community, Kugluktuk, is 88 km NE of the proposed campsite. All other communities are more than 200 km away from this location. The site is located within lands designated to have Caribou Calving Areas.
Coppermine River Transect Heli-pickup 1	Sampling sites	Inuit Owned Surface Lands	Location is within IOL PARCEL CO-53. Fieldwork in close proximity to this site is planned, with one day of helicopter support. The helicopter will transport waste and samples to Kugluktuk. There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community, Kugluktuk, is 88 km NE of the proposed site. All other communities are more than 200 km away from this location. The site is located within lands designated to have Caribou Calving Areas.
Coppermine River Transect Heli-pickup 2	Sampling sites	Crown	Fieldwork in close proximity to this site is planned, with one day of helicopter support. The helicopter will transport waste and samples to Kugluktuk. There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community, Kugluktuk, is 87 km NE of the proposed site. All other communities are more than 200 km away from this location. The site is at least 6 km SW of lands designated to have Caribou Calving Areas.
Coppermine River Transect Heli-pickup 3	Sampling sites	Crown	Fieldwork in close proximity to this site is planned, with one day of helicopter support. The helicopter will transport waste and samples to Kugluktuk. There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community, Kugluktuk, is 16 km NE of the proposed site. All other communities are more than 200 km away from this location. The site is located within lands designated to have Caribou Calving Areas and 0.75 km SW of Kugluk/Bloody Falls Territorial Park.
Coppermine River Transect Activity Area - Nunavut	Sampling sites	Inuit Owned Surface Lands	Area covers 13, 1:50 k NTS sheets. Fieldwork will only occur in close proximity to campsite,	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk which falls within the proposed study area. All other communities are more

			helicopter, and canoe route locations. No previous activity by this project in the area. The area overlaps more than one Inuit Owned Surface Land parcel: IOL PARCEL CO-53; IOL PARCEL CO-60; IOL PARCEL CO-61		than 200 km away from the perimeter of the study area. The area overlaps or is in close proximity to Caribou Calving Areas, a Caribou Post Calving Area, Kugluk/Bloody Falls Territorial Park, and a Caribou Freshwater Crossing.
Coppermine River Transect Activity Area - Nunavut	Sampling sites	Inuit Owned Sub-Surface Lands	Area covers 13, 1:50 k NTS sheets. Fieldwork will only occur in close proximity to campsite, helicopter, and canoe route locations. No previous activity by this project in the area. The area overlaps more than one Inuit Owned Sub-Surface Land parcel: IOL PARCEL CO-54; IOL PARCEL CO-55; IOL PARCEL CO-58; IOL PARCEL CO-59	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk which falls within the proposed study area. All other communities are more than 200 km away from the perimeter of the study area. The area overlaps or is in close proximity to Caribou Calving Areas, a Caribou Post Calving Area, Kugluk/Bloody Falls Territorial Park, and a Caribou Freshwater Crossing.
Coppermine River Transect Activity Area - Nunavut	Sampling sites	Municipal	Area covers 13, 1:50 k NTS sheets. Fieldwork will only occur in close proximity to campsite, helicopter, and canoe route locations. No previous activity by this project in the area. The area overlaps more than one Municipal parcel: IOL PARCEL CO-M01; IOL PARCEL CO-M03; IOL PARCEL CO-M04; IOL SKETCH 501-SK-062; IOL SKETCH 501-SK-063	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk which falls within the proposed study area. All other communities are more than 200 km away from the perimeter of the study area. The area overlaps or is in close proximity to Caribou Calving Areas, a Caribou Post Calving Area, Kugluk/Bloody Falls Territorial Park, and a Caribou Freshwater Crossing.
Coppermine River Transect Canoe Route	Sampling sites	Inuit Owned Surface Lands	Fieldwork on foot is planned in close proximity to this route and may occur in: IOL PARCEL CO-53; IOL PARCEL CO-60; IOL PARCEL CO-61 There has	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk. All other communities are more than 200 km away from this route. The site is located within lands designated to have Caribou Calving

			been no previous activity by this project in the area.		Areas and passes through Kugluk/Bloody Falls Territorial Park.
Coppermine River Transect Canoe Route	Sampling sites	Inuit Owned Sub-Surface Lands	Fieldwork on foot is planned in close proximity to this route and may occur in: IOL PARCEL CO-54; IOL PARCEL CO-58; IOL PARCEL CO-59 There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk. All other communities are more than 200 km away from this route. The site is located within lands designated to have Caribou Calving Areas and passes through Kugluk/Bloody Falls Territorial Park.
Coppermine River Transect Canoe Route	Sampling sites	Municipal	Fieldwork on foot is planned in close proximity to this route and may occur in: IOL PARCEL CO-M03; IOL PARCEL CO-M04 There has been no previous activity by this project in the area.	(N/A) The project activity is not aware of any archaeological / paleontological sites of value.	The nearest community is Kugluktuk. All other communities are more than 200 km away from this route. The site is located within lands designated to have Caribou Calving Areas and passes through Kugluk/Bloody Falls Territorial Park.

Community Involvement and Regional Benefits

Community	Name	Organization	Date Contacted
Kugluktuk	Donal Leblanc	Kugluktuk Hamlet	2016-11-28
Kugluktuk	Donal Leblanc	Kugluktuk Hamlet	2017-01-19
Kugluktuk	Manager	Angoniatit Niovikvia HTO	2016-11-28
Kugluktuk	Ryan Nivingalok	Kugluktuk Hamlet	2016-11-28
Kugluktuk	Wynter Kuliktana	Kitikmeot Inuit Association	2016-11-28
Kugluktuk	Wynter Kuliktana	Kitikmeot Inuit Association	2016-12-16
Cambridge Bay	Junna Ehaloak	Kitikmeot Inuit Association	2016-11-28

AUTHORIZATIONS

Project Locations

Transboundary
Kitikmeot

Project Authorization

Authorizing Agency	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Indigenous and Northern Affairs Canada	Information was submitted to determine if a Class B land use permit will be triggered. Contacted Tracey McCaie, Indigenous and Northern Affairs Canada to determine next steps if permitting is required.	Not Yet Applied		
Government of Nunavut, Department of Environment	A Nunavut Territorial Parks Use Permit may be required for traveling through or camping in the Kugluk/Bloody Falls	Not Yet Applied		

	Territorial Park. Follow up is required.			
Kitikmeot Inuit Association	The Kitikmeot Inuit Association (KIA), Lands Division, Application for Access to Inuit Owned Land, must be completed, and work toward this is in progress with Tannis Bolt, Project Officer with KIA.	Not Yet Applied		
Nunavut Water Board	Due to the limited amount of water to be used and waste that will result, the thresholds for Type A or Type B Licences & Authorizations may not be exceeded and it is possible that permission to use water without a license will apply. David Hohnstein (NWB Director Technical Services) was contacted and recommended a coordinated follow up with NIRB to ensure this licensing or permission can start as early as possible.	Not Yet Applied		
Nunavut Research Institute	Scientific research licence for Land and Water Research. Mosha Cote Manager, Research Liaison for the Nunavut Research Institute has been contacted and follow up for submission will occur in conjunction with this NIRB submission.	Not Yet Applied		
Other	Aurora Research Institute Scientific Research License (http://nwtresearch.com/licensing-research)	Not Yet Applied		

MATERIAL USE

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
fixed wing aircraft (de Havilland Canada DHC-6 Twin Otter) on floats	1	L: 15.77 m, W: 19.81 m, H: 5.94 m	transport field personnel, equipment, and supplies to Camp 1; and from Camp 1 to Camp 2
helicopter (Bell 206L Long Ranger)	1	L: 10.42, W: 2.32, H: 3.02	transport field personnel between camps and set outs, and pick up samples and waste for transport from the field to Kugluktuk
canoes	3	L: 5.18 m (17 feet), W: 0.91 m, H: 0.53 m	transport of field crew from Camp 2 to Kugluktuk along Kendall and Coppermine Rivers
canoes	3	L: 4.88 m (16 feet), W: 0.89 m, H: 0.53 m	transport of field crew from Camp 2 to Kugluktuk along Kendall and Coppermine Rivers
Unmanned Aerial Vehicle (UAV) - DJI Inspire 1 with video camera (primary)	1	43.8 x 45.1x30.1 cm	collect video images of geological outcrops
Unmanned Aerial Vehicle (UAV) - DJI Phantom 4 Pro with video camera (back-up)	1	35.0 cm diagonal	collect video images of geological outcrops
single-burner camp cooking stoves	4	10 x 10cm	cooking food

Detail Fuel and Hazardous Material Use

Fuel / Material	Type	Number of Containers	Container Capacity	Total Amount	Units	Proposed Use
Other	fuel	10	0.88	8.8	Liters	single-burner cooking stove fuel - White Gas (naphtha), more than one size might be used; the maximum size and amount to be used are provided
Bear Spray	hazardous	12	0.225	2.7	Liters	personal protection

Project Water Consumption

Daily Amount (m3)	Proposed Water Retrieval Methods	Proposed Water Retrieval Location
1	extract river/lake water using drinking bottles or cooking pots	campsite dependent; open waterbodies: lakes if necessary, but primarily flowing rivers near camp sites

WASTE

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional Treatment Procedures
Camp	Greywater	0.024 m3/day/person at a given campsite	apply “leave no trace” principals (http://www.leavenotrace.ca/principles) and scatter greywater at least 31 m	none, this is the total daily amount estimated per person

			away from the high water mark of any waterbody or watercourse as specified in the Nunavut Waters Regulations (http://canlii.ca/en/ca/laws/regu/sor-2013-69/latest/sor-2013-69.html) "Waste Deposit Without a Licence" section 5.4.a	for the full period of the fieldwork
Camp	Non-Combustible wastes	5 kg	transport to Kugluktuk by helicopter and use the community waste disposal facilities	none, this is the total estimated for the full period of the fieldwork
Camp	Sewage (human waste)	0.024 m3/day/person at a given campsite	apply "leave no trace" principals (http://www.leavenotrace.ca/principles) principals and stay at least 31 m away from the high water mark of any waterbody or watercourse as specified in the Nunavut Waters Regulations (http://canlii.ca/en/ca/laws/regu/sor-2013-69/latest/sor-2013-69.html) "Waste Deposit Without a Licence" section 5.4.a	none, this is the total daily amount estimated per person for the full period of the fieldwork

Environmental Impacts

See attached document: NIRB Environmental Impacts - Coppermine River Transect.pdf Other project documents including the requested map; and equipment, fuel, and materials details; and community contacts in the Northwest Territories are also attached.

Description of Existing Environment: Physical Environment

Description of Existing Environment: Biological Environment

Description of Existing Environment: Socioeconomic Environment

Identification of Impacts and Proposed Mitigation Measures

Cumulative Effects

IMPACTS

TABLE 1 - IDENTIFICATION OF ENVIRONMENTAL IMPACTS

CONSTRUCTION																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
OPERATION																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
DECOMMISSIONING																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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