#### Grays Bay Road and Port Project Research Program Summary of 2017 Activities

The Grays Bay Road and Port (GBRP) Project is a transportation corridor that will permanently connect a deep-water port at Grays Bay on the Coronation Gulf to the northern terminus of the Tibbitt-Contwoyto Winter Road at the former Jericho Mine, Nunavut. The project will be required to undergo an environmental review by the Nunavut Impact Review Board.

Nunami Stantec Limited (Nunami Stantec), a contractor supporting the project proponents through the environmental review process, received Scientific Research Licence #04 031 17N-M from the Nunavut Research Institute (NRI) to conduct a variety of research activities to support the environmental review of the GBRP project. In addition to the NRI licence, Nunami Stantec also received approvals from the Government of Nunavut Department of Environment (installation of wildlife observation cameras), Department of Fisheries and Oceans (fisheries studies) and Kitikmeot Inuit Association (access to Inuit Owned Lands). The following is a non-technical summary of research completed in 2017/18 under the authority of the NRI Research Licence.

# Activities at or near the Proposed Gray's Bay Port Site

# Marine Mammal and Seabird Survey

This survey was proposed to be undertaken in the marine waters adjacent to Grays Bay; however, it was not undertaken during the 2017/18 year due to weather conditions. It may be rescheduled to summer 2019.

# Collection of zooplankton, benthos and sediment samples

Samples were proposed to be collected from the waters and sediments in Grays Bay near to the proposed Port site; however, the studies were not undertaken during the 2017/18 year due to weather conditions. They may be rescheduled to summer 2019.

#### **Engineering Field Observations**

The Grays Bay Port Site was accessed by helicopter from Kugluktuk during day trips on September 19 and 20, 2017. An engineer and wildlife monitor from Kugluktuk traversed the port site area on foot taking notes and photographs of the site to assist with locating suitable sites for different land-based facilities. An attempt was made to download data from the existing weather station.

## Installation of Wildlife Observation Cameras

The Grays Bay Port Site was accessed by helicopter from Kugluktuk during day trips on September 19 and 20, 2017 by one wildlife biologist and one wildlife monitor. Eight cameras were installed into rock at locations around the proposed port site to record wildlife activity. Cameras were programmed to take pictures once every hour, 24 hours a day. They are also motion triggered. It was intended to retrieve the data and cameras in March 2018; however, due to adverse weather conditions on two attempts, the cameras have not been retrieved. They will be retrieved on a subsequent program as conditions allow.

#### Noise Monitoring

Noise monitoring was not undertaken at the port site.

## Activities at or near Jericho Station between Jericho Mine and Burnside River

#### Road Alignment Observations

A reconnaissance of the proposed road alignment between Jericho Mine and the Burnside River was completed between September 13 and 15, 2017. Two engineers used a helicopter to access various locations along the route to confirm soil and rock conditions and to observe potential watercourse crossing locations.

#### Noise

Noise monitoring equipment was set up at a location approximately 5 km northwest of the Lupin Mine site. Continuous noise measurement was conducted for 3 days during both daytime and nighttime period. The microphone was setup at a height of 1.5 m above the ground. There are approximately 19 hours of measurement data including 9 hours during daytime and 10 hours during nighttime. The overall daytime sound levels measured 43.4 dBA and the nighttime sound level is 40.4 dBA.

#### Fish and Fish Habitat Assessment

The fisheries assessment of water courses to be crossed by the proposed road was completed between September 13 and 15, 2017 by two biologists accompanied by a wildlife monitor from Kugluktuk. Helicopter overflights of 16 water course crossings near Jericho Station were completed on September 13. On September 14 and 15, 2017 fish and fish habitat assessments were completed at 3 of the 16 water course crossings identified as having potential to contain fish habitat (Site 10, Site 1002 and at the Burnside River (Site 62)). At each crossing location, channel characteristics were measured upstream and downstream of the crossing site. Fish sampling, using electrofishing and baited minnow traps, was also completed at each site to document species presence. Potential for fish habitat at high flows was identified at Site 10; however, no fish were caught at this location. Fish habitat was identified and fish were caught at Site 1002 and the Burnside River.

## Inuit Qaujimajatuqangit (IQ) Program.

A workshop with Inuit Knowledge Holders was held in Kugluktuk between March 14-16, 2018. The workshop was facilitated by consultants from Nunami Stantec and the Kitikmeot Inuit Association's Naonaiyaotit Traditional Knowledge Project (NTKP). The workshop began with a presentation about the proposed GBRP project. Participants asked questions about the proposed project and discussed concerns. Participants also contributed Inuit knowledge about a variety of topics including land, marine areas., communities, fish and wildlife. New knowledge will be verified during a subsequent workshop to be held in fall 2018 and will be integrated into the NTKP database using NTKP approved protocols.

#### Kugloktoakyok mi onalo tolaktakvihak havagiplogo 2017mi aolavaktok ona

Kuglotoakyop apkotalo havak aolayotikhak piloakhimaniaktok itinimi emami tolaktakvihak Kugloktoakyokmi tagiogotiptini tonotgani oma Tibbitt/Tahikyoaplo okiomi apkotikakniktigot ovani Jericho oyahiokvik nunavutmi. Ona havak ehivgiotaoniaktok avatiligiyinit okonona Nunavutmi avatiligiyit katimayitigot.

Nunami Stantec Limited okoa kantrahimayot ekayoktot havakmik.

Okonona avatiligiyitigit piyot ehivgiohiyit kiniktot Laisihamik Napa #04031 17N-M okonaga Nunavut kiniktit kililoaganit (NRI)) havagilo honalikak kiniklogit holilokagotit ekayoklogit avatiligiyitkot kiniktit Kugloktoakyop apakotaniklo havaginik. Elagiaklogo NRI Laisin, Nunami Stantec piyotlo agittaoplotik okonaga kavamanit ema Nunavut havakvita. Avatiligitkot (iliogaiplotiklo pasaliogiami agotihaknik) Ekaloligiyitkot tagiomi (ikalonik oktotot) Kitikmiut Inuit Katoyikatigigit kotlo (inuit nunanaini). Hapkoa enikhiloakhimagitot 2017/18 okoa NRI holiyotihanik Laisihaini.

#### Holiyotit kanitoani Koglokyoakyop tolaktavihak.

#### Tagiomiotani ovalo tigmianik monahiot

Hapna ehivgiohinik opotihimayok tagiop emani Kugloktoakyokmi, kanolokak, havagigitat 2017/18 hilalokatainaman aoyamipat kihimi 2019mi.

#### Katitiginik ehivgioktahanik honavalonik

Ehiovgotihanik piyakhaogaloit emamit Kugloktoakyop haniani tolaktakvihap, kanolo, holigitot 2017/18 hilaloinaman 2019mi aoyakmipat.

#### Titigaoyaktit holiyot

Ona Kugluktoakyok halikaptakot Kugluktukmionit opahogo September 19, 20 2017 mi.

#### Agotihalikiyitigot agoatihaniklo monatitlo

Egoyot (8) piksaliogotit eliyaovaktot oyakanot agotihanik pisaliogiagini. Piksaliotit 24 ekaknit natkagata piksaliokpatot. Kanogitilagitlo naonaiyakhogit kiniknahoaktagaloagit piksaliotit March 2018mi. hilaloinaman malgoiktogaloaktot oktokhotik. Piksaliotit takogakgitpot. Takoniakkait ayonagonaitkat

Tohanaknimik naonaiyaigitot tolaktakvihami

# Holiyotit ovani kanitoanilonit Jericho nayogaloagani akongani Jericho oyagakhioviani Ayapakpatovimi.

## Apkotmik monahinik

Ona apkot pitkoyaoyok akongani Jericho oyahioviani omalo ayapapatoviop iniktaoyok ovani Sept 13, omani 15, 2017 mi

Malgok titigaoyalikiok halikaptakhotik okonoga nunanut nunavaloitlo oyakatlo takohogit ematlo ekaktakvikhait.

## Tohanaktut

Tohanaktonik oktutit eliyaovaktok 5 km tonotganot oatanot Lupin Mine. Oktoktaoginatut Tohanaktok Obloni Pigahoni Oblomat Onoamilo. Okaot oktot eliyaovaktok kolvahitilaga I.S nunamit. 19 ekanini

oktohimayot oktotlo naini ekaknini oblomat kolini onokni. Oktot naonaitkota 43.4 Dba obloman. Onoamilo 40.4 Dba.

#### Ekaloit ovalo Ekalukanigit

Ekaloligiyit Ehivgiohiyot emamik ekaktatonik apoktikavikhap enitaohimayok Sept. 13 + 15, 2017 okonona malguk ehivgiohiyok agotihanilo oktotit Kugluktomit.

Halikapta timiviktok, 16 emat ekaktukvik haniani Jericho enikpaktot Sept. 13 mi ovanilo Sept. 14 + 15, 2017 Ekaloit ovalo ekalokanigit eniktaovaktut Pingahot 16goplotiklo emam ekatanigit elitagiyaoplotik ekalokanigit (site 10, site 1002 ovanilo Ayapakpaktovik (Site 62). Okonani ekotavini, atonikgit ogtoktaovaktut konmonigit anmolo ekatkvihi. Ekalonik oktoknik. Atokhoktik ekalokhivgotinik nikihialikniklu nanigiatot. Eniktaovaktot honavaloknik oktoknit.

Elagit Ekalokanigit etinikni elihimayaoyok omani site 10; kanolo ekalohimagitut talvani. Ekalokanilo elitagiyaoyok ekalokviovaktok site 1002 talvani Ayapakpaktokvikmi.

# Inuit Kaoyimayotokagit (IQ) Hanakitioyot

Katimanikmi Inuit kaoyimayutukaginik Pihimayot Kugluktumi akogani March 14-16, 2018. Katimanimi Aulapkaiyit Nunavut Stantec okoalo KIA (NTKP)lo.

Katimayotigiplogu ona Kugloktoakyok apkotalo havak. Elaoyot apihivaktot. Havakot ehomagiaminiklo. Elaoyotlo okahuktik honanik Nunaniklo. Tagiomiotanilo, Nunaniklo, Ekalonik Hogayaniklo.

Nutak kaoyihaot Mihinaktuk Katimayoni hivomoniakmiok Katimayotihamot okiomi 2018 okonogakniatok NTKP naonaiyahimayotnut atoklugit NTKP agigotit piyaohimayot.