NIRB Uuktuutinga Ihivriuqhikhamut #125415

CAM-M, Cambridge Bay Water Use Licence Renewal

Uuktuutinga Qanurittuq:	New
Havaap Qanurittunia:	Defence
Uuktuutinga Ublua:	10/29/2018 1:26:06 PM
Period of operation:	from 0001-01-01 to 0001-01-01
Piumayaat Angirutinga:	from 0001-01-01 to 0001-01-01
Havauhikhaq Ikayuqtinga:	Jeremy Laflamme DND 455 Boulveard de la Carriere Gatineau Quebec J8Y 6V7 Canada Hivayautit Nampanga:: 8199394934, Kayumiktukkut Nampanga::

QANURITTUT

Tukihiannaqtunik havaariyauyumayumik uqauhiuyun

Qablunaatitut: CAM-M, Cambridge Bay 3BC- CAM0919Water Licence Renewal and AmendmentThe North Warning System in Canada is a chain of unmanned radar sites that provides aerospace surveillance, established to detect and allow for an early response to potential threats entering North American air space. It is part of Canada's North American Aerospace Defense Command (NORAD) agreement with the United States, and an essential capability in our efforts to maintain Canada's sovereignty. Raytheon Canada Limited has the contract with the Department of National Defence to operate and maintain the North Warning System radar site CAM-M, Cambridge Bay. CAM-M is situated in Nunavut in the Kitikmeot Region on Victoria Island adjacent to the community of Cambridge Bay. It is located on a hill top, about 30 m above sea level, of a gently rising plateau broken by innumerable swamp-margined lakes and ponds.CAM-M is a Long Range Radar Site (LRR) and a Logistics Support Site for the North Warning System. CAM-M is staffed with an annual average site population of 18 to 22 people per day. Site numbers increase during the summer due to seasonal construction and occasional large groups of Third Party visitors.CAM-M is one of 11 LRRs of the North Warning System; the LRRs are located across the Yukon, Northwest Territories, Nunavut, and down the Labrador coast. The facilities are remotely monitored and controlled from North Bay on a 24/7 basis. The information they receive is automatically sent to the Canadian Air Defence Sector located at 22 Wing, CFB North Bay over a long-haul satellite communications network.

Uiviititut: N/A

Inuktitut: CAM-M, ᐃᖃᓗᑦᑑᑦᑎᐊᖅ 3BC- CAM0919ᐃᒥᕐᒧᑦ ᓚᐃᓴᔅᓯᖓ ᓄᑖᕈᖅᑎᑕᐅᓂᖓ ᐊᓯᔾᔨᕐᓂᖓᓪᓗᑦᐅᐊᓐᓇᒥ ᑕᕐᕋᖅᑑᑎᖃᕐᕕᒥᓃᑦ ᑲᓇᑕᒥ ᐊᑦᑎᖅᓯᒪᓐᖏᑦᑐᑦ ᖃᐅᔨᓴᐅᑏᑦ ᖃᖓᑕᔪᓂᑦ ᐅᐊᑦᑎᔩᑦ, ᐋᖅᑭᑦᑕᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᐅᑎᐅᓪᓗᑎᒃ ᓴᖅᑭᖅᑐᖃᕐᓂᖅᑲᑦ ᐅᓗᕆᐊᓇᖅᑐᒥᓪᓘᓐᓃᑦ ᑲᓇᑕᒥ ᓯᐊᓚᒪᐃᓪᓘᓐᓃᑦ ᐊᓂᕐᓂᖃᕐᓇᖏᑦᑐᖓᓐᓂ. ᐃᓚᒋᓪᓗᓂᐅᒃ ᑲᓇᑕᐅᑦ ᐊᓂᕐᓂᖃᕐᓇᖏᑦᑐᒥᑦ ᓴᐳᓐᓂᐊᕈᑎᓂᑦ (NORAD) ᐊᖏᕈᑕᐅᓯᒪᔪᑦ ᒥᐊᓕᒐᕐᓄᑦ, ᐊᒻᒪᓗ ᑲᒪᒋᔭᐅᖃᓯᐅᔾᔭᐅᓗᑎᑦ ᑎᒍᒥᐊᖅᑕᐅᓗᑎᑦ ᑲᓇᑕᒥ ᓇᓗᓇᐃᒃᑯᓯᖅᓱᖅᑕᐅᓯᒪᓗᑎᑦ. ᕋᐃᑎᐊᓐ ᑲᓇᑕ (Raytheon Canada Limited) ᑳᓐᑐᓛᖃᑦᑐᖅ ᐅᓇᓕᔅᓴᓂᑦ ᐊᐅᓚᑦᑎᖁᔨᓪᓗᑎᑦ ᑲᒪᓗᑎᓪᓗ ᐅᐊᓐᓇᖓᓂ ᑕᕐᕋᖅᑑᑎᖃᕐᕕᒥᓂᕐᒥᑦ ᖃᐅᔨᓴᕐᕕᒻᒥᑦ CAM-M–ᒥᑦ, ᐃᖃᓗᑦᑑᑦᑎᐊᕐᒥ. CAM-M ᓄᓇᕗᒻᒦᑦᑐᖅ ᕿᑎᕐᒥᐅᓂᑦ ᑕᓯᐅᔭᕐᔪᐊᒦᖅᑐᖅ ᐃᖃᓗᑦᑑᑦᑎᐊᑉ ᖃᓂᓇᔭᖓᓂ. ᖃᖅᑲᒦᑦᑐᖅ, ᐳᖅᑐᓂᓕᒃ 30–ᒦᑕᓂᑦ ᓯᒪᕕᒻᒥ, ᖃᖅᑲᔫᕐᒦᖅᑐᖅ ᒪᓴᕈᔪᒻᒦᑦᑐᓂ ᑕᓯᐅᔭᓂᓪᓗ.CAM-M ᑕᑭᔫᓪᓗᓂ ᖃᐅᔨᓴᕐᕕᒃ (LRR) ᐊᒻᒪᓗ ᐃᑲᔪᖅᑐᐃᔾᔪᑕᐅᓪᓗᓂ ᐊᓯᖏᓐᓄᑦ ᐅᐊᓐᓇᖓᓂ ᑕᕐᕋᖅᑑᑎᖃᕐᕕᒥᓂᕐᓂᒥᑦ. CAM-M ᐃᖅᑲᓇᐃᔭᖅᑎᖃᑲᐃᓐᓇᐸᑦᑐᖅ ᐃᓄᒋᐊᓐᓂᓕᓐᓂᑦ 18–ᒥᑦ 22–ᒧᑦ ᖃᐅᑕᒫᑦ. ᐊᐅᔭᒃᑯᑦ ᐊᒥᓲᓂᖅᓴᐅᕙᑦᑐᑎᑦ ᓴᓇᔭᖅᑐᖅᑐ ᐊᓯᖏᓐᓂᓪᓗ ᐳᓚᕋᕐᕕᐅᓪᓗᓂ.CAM-M ᐃᓚᐃᔭᐅᔪᖅ 11–ᓂᑦ LRRs ᑕᕐᕋᖅᑑᑎᖃᕐᕕᒥᓂᕐᓂᑦ; ᑖᒃᑯᐊ LRR ᔫᑳᒦᑦᑐᑦ, ᓄᓇᑦᑎᐊᕐᒥ, ᓄᓇᕗᒻᒥ ᓛᐸᑐᐊᓗ ᓯᔾᔭᖏᓐᓂ. ᐅᖓᓯᑦᑐᒦᑦᑐᑦ ᑕᒪᒃᑯᐊ ᐊᐅᓚᑕᐅᓪᓗᑎᓪᓗ North Bay–ᒥ ᖃᐅᑕᒫᑦᑎᐊᑦ (24/7). ᑐᑭᓯᒋᐊᕈᑏᑦ ᐃᒻᒥᓂᒃ ᑐᔫᑎᒥᖃᑦᑕᖅᑐᑦ ᑲᓇᑕᐅᑉ ᐅᓇᓕᔅᓴᖃᕐᕕᖕᒥᓐᓄᑦ ᑕᐃᑲᓂ 22 ᐊᕕᑦᑐᖅᓯᒪᔪᓂᑦ, CFB North Bay–ᒥ ᖃᖓᑦᑕᖅᑎᑕᐅᓯᒪᔪᒃᑯᑦ.

Inuinnaqtun: N/A

Personnel

Personnel on site: 18

Days on site: 365

Total Person days: 6570

Operations Phase: from 2019-03-31 to 2029-03-31

Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtailiyainnit nuna
CAM-M, North Warning System site	Site Cleanup/Remediation	Crown	CAM-M was built in the 1950’s as one of the Distant Early Warning Line (DEW Line) radar sites. In the 1980’s, the DEW line in Canada evolved into the North Warning System (NWS). CAM-M was modernized as part of this transition. Over the years, the Prime Mission of the radar sites remains unchanged: to detect airborne objects within the Arctic surveillance area.	None known.	Cambridge Bay, Nunavut, 2.5 km east on the north shore of the main inlet and 4 km away by road.

Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Information is not available			

Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Kitikmeot

Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Nunavut Imaligiyit Katimayit	Water Licence 3BC-CAM0919	Active	2009-09-10	2019-08-31
Nunavut Imaligiyit Katimayit	Water licence number to be determined. This licence is to replace Water Licence 3BC-CAM0919. Dates are estimates only.	Not Yet Applied	2019-03-31	2029-03-31

Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Air	Transportation to the site is by commercial air carriers. Helicopter and fixed wing aircraft are used to support adjacent NWS sites/	
Water	Transportation of bulk materials, dry goods, and fuel are completed by ship.	
Land	Transportation around the site is by pick-up truck. Heavy equipment is also used as required.	

Project accomodation types

Permanent Camp

Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutinik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Pickup Truck	6	5.8x2x2.4 m	Transportation
Grader	1	9.1x2.5x3 m	Road maintenance
Dozer	1	5.8x3.4x3.6 m	earthworks, snow clearing
Water truck	1	3x5x2.7 m	moving water
Loader	1	7x3.8x2.3 m	Earthworks, snow clearing, moving materials.
Dump truck	1	3x5x2.7 m	Earthworks, snow clearing
Snow plow	2	3x5x2.7 m	Snowclearing
mini-excavator	1	3x2.2x1 m	Earthworks

Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Aviation fuel	fuel	1	946300	946300	Liters	Power generation
Aviation fuel	fuel	1	75000	75000	Liters	Power generation
Aviation fuel	fuel	1	4100	4100	Liters	Refuel Equipment (trucks, etc.)
Aviation fuel	fuel	2	69200	138400	Liters	Aviation
Aviation fuel	fuel	1	946300	946300	Liters	Aviation / Power generation
Oil	hazardous	25	205	5125	Liters	Engine maintenance
glycol	hazardous	2	205	410	Liters	maintenance
Paint	hazardous	1	205	205	Liters	Site maintenance
Batteries	hazardous	1	205	205	Liters	Power generation

Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqtittagaani qanuq	Atulirumayain imavaluin utiqtittagani humi
10	Pipeline / truck	Water supply lake. See attached document Annex Q4 – CAM-M Site Plan.pdf for location.

Iqqakuq

Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Other	Ikulalaaqtun iqqakuuvaluin	20,000 kg	Municipality of Cambridge Bay landfill	None
Other	Qayangnaqtut	50 drums, 2 crates	Licensed Waste HAZMAT Disposal Facility (off-site)	None
Site Cleanup/Remediation	Hivuuranaqtun iqakuuvaluin	To be determined	Hydrocarbon impacted soil may be disposed of in a landfarm, if approved.	See attached document Annex A3 - CAM-M Landfarm Plan.pdf for additional details.
Other	Anaagun (inuin anaaguin)	1,400,000 L/year	Discharged to the environment (includes grey water)	Prior to discharge, the waste is treated with a tertiary sewage treatment plant

Avatiliriniqmut Ayurhautingit:

Potential impact: IF hydrocarbon impacted soil is not properly handled THEN the amount of impacted soil could increase Mitigation: Impacted soil will be handled as described in the attached document Annex A3 - CAM-M Landfarm Plan regarding construction, operation, environmental control, and closure of the landfarm.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

The North Warning System Office (NWSO) occasionally has a requirement to remediate spills on-site. Given the effort involved, landfarming impacted soil will only be considered where it is the best option for remediating a spill (e.g. treating the soil from a large spill instead of shipping it off-site for treatment).See attached document Annex A3 - CAM-M Landfarm Plan for details.

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

Qanurittuq Ittunik Avatinga: Avatingalluanga

See attached document Annex Q3 - CAM-M Site Description.pdf

Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga

See attached document Annex Q3 - CAM-M Site Description.pdf

Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga

The community of Cambridge Bay, 2.5 km east of the CAM-M site is an important transportation and communications centre in the central arctic.

Miscellaneous Project Information

Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit

The attached document Annex Q2 - Spill Contingency Plan.pdf includes a risk analysis of spills on the North Warning System (Table 8-1), including the impact, probability, and mitigations.

Tamatkiumayunik Ihuikgutivaktunik

None identified.

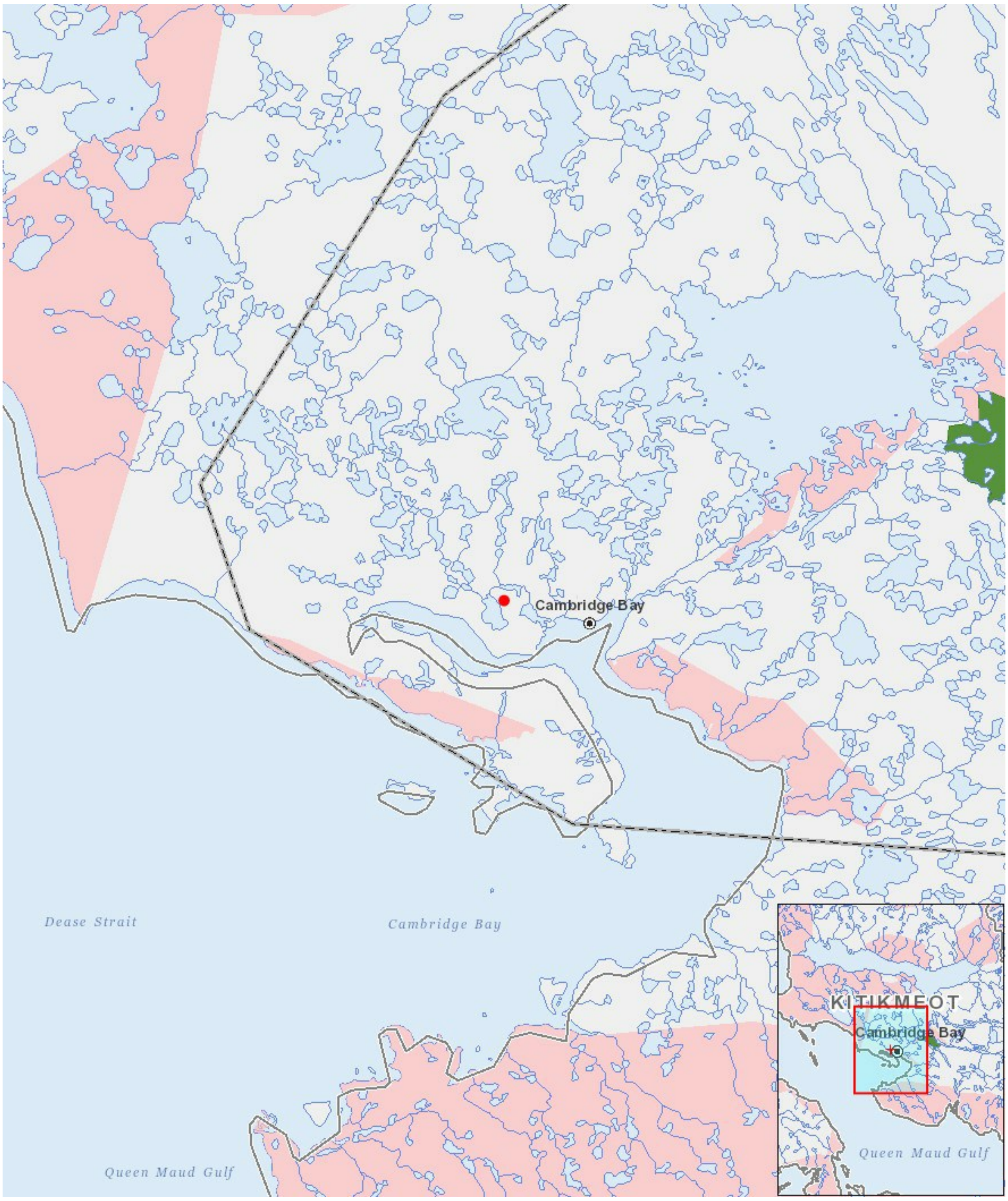
Impacts

Ilitariyauniq Avatiliriniqmut Ayurhautingit

	PHYSICAL	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	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Havakvinga																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Aulapkaininnga																									
Site Cleanup/Remediation		-	-	-	-	-	-	-	-	N	-	-	-		-	-	-	-	-		-	-	-	-	-
Piiqtauniq																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyauyuq)

PROJECT MAP



LIST OF PROJECT GEOMETRIES:

1	point	CAM-M, North Warning System site