

**ᑭᓄᐃᑦ ᐱᐅᑕᓕᓴᑦᐅᑦᐅᑦ ᑲᑕᓴᑦᑦᑦᑕᑕᑦ ᑕᑦᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦᑦ #125416**  
**CAM-3, Shepherd Bay Water Use Licence Renewal**

$\gamma_b \Delta^c \dot{\gamma} \cap \sigma^b \quad \wedge c_n \nabla^{\gamma_b} \gamma_{\sigma} \nabla^a l^a \sigma^b$

١٦٤٥٧٩٠: The 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-3, Shepherd Bay. CAM-3 is situated in Nunavut on the Boothia Peninsula on the east side of Shepherd Bay. It is located on a gently and uniformly sloping coastal plain area that appears to be an emerging sea bottom. The closest source of support is CAM-M, Cambridge Bay to the west. Flight time from CAM-M is 2 hours and 40 minutes by helicopter under normal conditions. CAM-3 is a Long Range Radar Site (LRR) for the North Warning System. CAM-3 is an unmanned site, but it is visited by CAM-M staff on scheduled quarterly preventive and corrective maintenance trips and on an as needed basis. During the months of May to September the site may have an average of 5 to 20 personnel on-site due to seasonal project activity and occasional Third Party visitors. CAM-3 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.

▷ΔΑΠΝΩ<sup>c</sup>: N/A

[illegible]

Inuinnaqtun: N/A

## Personnel

Personnel on site: 5

Days on site: 60

Total Person days: 300

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

Λ c n ◁ n ↗ ▷ σ ◁ <sup>96</sup> )<sup>c</sup>

CAM-3 Site	Site Cleanup/Remediation	Crown	CAM-3 was built in the 1950s as one of the Distant Early Warning Line (DEW Line). In the 1980s, the DEW Line in Canada evolved into the North Warning System (NWS). CAM-3 was modernized as part of this transition. On 31 August 1995, the site changed from manned to unmanned status. Over the years, the Prime Mission of the radar sites remains unchanged: to detect airborne objects within the Arctic surveillance area.	No archaeological sites within boundaries of work areas (landfills), camp area (airstrip) or site roads.	The closest communities to CAM-3 are:1.Taloyoak, 82 km north;2.Gjoa Haven, 100 km west; and 3.Cambridge Bay, 467 km west. Flight time is 2 hours and 40 minutes by helicopter in normal conditions.

[illegible]

მეც რს <sup>ყბ</sup>	ღწ <sup>ც</sup>	ბი <sup>ბ</sup> პ <sup>ბ</sup> დ <sup>ბ</sup> ნ <sup>ბ</sup> რ <sup>ბ</sup> ს <sup>ბ</sup>	ყბ <sup>ბ</sup> ჯ <sup>ბ</sup> ბ <sup>ყბ</sup> ნ <sup>ყბ</sup> ც <sup>ყბ</sup> დ <sup>ყბ</sup> ჯ <sup>ყბ</sup> რ <sup>ყბ</sup> ს <sup>ყბ</sup>
Information is not available			

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Kitikmeot

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ሬፈሳራዊ ለጋራዊ ልማት ልማት ሬፈሳራዊ ለጋራዊ ልማት ልማት	Water Licence 3BC-SHE-0919	Active	2009-09-10	2019-08-31
ሬፈሳራዊ ለጋራዊ ልማት ልማት ሬፈሳራዊ ለጋራዊ ልማት ልማት	Water Licence number to be determined. This licence is to replace 3BC-SHE-0919. Dates are estimates only.	Not Yet Applied	2019-03-31	2029-03-31

## Project transportation types

Transportation Type	ሬፈሳራዊ ለጋራዊ ልማት ልማት	Length of Use
Air	Transportation to the site for maintenance is by helicopter and fixed wing aircraft	
Water	Transportation of bulk materials, drygoods and fuel is by ship.	
Land	Transportation on-site is by pick-up truck. Heavy equipment is used on-site as required.	

## Project accomodation types

Permanent Camp

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Λ<sup>9</sup>D<sup>c</sup> Δ<sup>6</sup>ΓΔ<sup>5b</sup> ΔD<sup>5b</sup>CΔσD<sup>5b</sup>HΔ<sup>5b</sup> ΔC<sup>5b</sup>FΔNΔ<sup>c</sup> ΔjCΔ<sup>c</sup>, Γ<sup>c</sup>ΔPΔ<sup>c</sup>, <sup>5b</sup>ΔLCΔ<sup>j5b</sup>, ΔFΔ<sup>c</sup> ΔP<sup>5b</sup>Δ<sup>c</sup>

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Grader	1	9.1x2.5x3 m	Road Maintenance
Dozer	1	5.8x3.4x3.6 m	Earthworks, snow clearing
Pickup truck	2	5.8x2x2.4 m	Transportation
Dump Truck	1	3x5x2.7 m	Earth works, moving water in water tank
Mini-excavator	1	3x2.2x1 m	Earth works
ATV	1	1650 lbs	Transportation

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Aviation fuel	fuel	3	246000	738000	Liters	Site power generation
Aviation fuel	fuel	3	75000	225000	Liters	Site power generation
Aviation fuel	fuel	3	50000	150000	Liters	Aviation
Aviation fuel	fuel	1	4100	4100	Liters	Vehicle refuelling
Oil	hazardous	12	205	2460	Liters	Engine maintenance
Glycol	hazardous	2	205	410	Liters	Site maintenance
Paint	hazardous	1	205	205	Liters	Site maintenance
Batteries	hazardous	1	205	205	Liters	Power generation

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4	Water truck	Water is drawn from the water lake. See attached document Annex Q4 - CAM-3 Site Plan.pdf

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Erosion control	ᐃᑲᑕᑦ ᐃᑲᑕᑦ ᑕᑦ ᑕᑦ ᑕᑦ	1000 kg	Municipality of Cambridge Bay Landfill	None
Erosion control	ᐃᑕᑕᑦ ᑕᑦ ᑕᑦ ᑕᑦ	25 drums, 2 crates	Licensed Waste HAZMAT Disposal Facility (off- site)	None
Landfarm	ᐃᑕᑕᑦ ᑕᑦ ᑕᑦ ᑕᑦ	To be determined	Hydrocarbon impacted soil may be disposed of in a landfarm, if approved.	See attached document Annex A3 - CAM-3 Landfarm Plan.pdf for additional details
Erosion control	ᑕᑦ ᑕᑦ ᑕᑦ ᑕᑦ	50 m <sup>3</sup>	Sump (including greywater)	None

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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-3 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). For details see the attached document Annex A3 - CAM-3 Landfarm Plan.pdf

## 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

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See attached document Annex Q3 - CAM-3 Site Description.pdf

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See attached document Annex Q3 - CAM-3 Site Description.pdf

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CAM-3 is a remote site that the Nunavut Planning Commission has identified is outside the area of an applicable land use plan.

## Miscellaneous Project Information

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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.

## Cumulative Effects

None identified

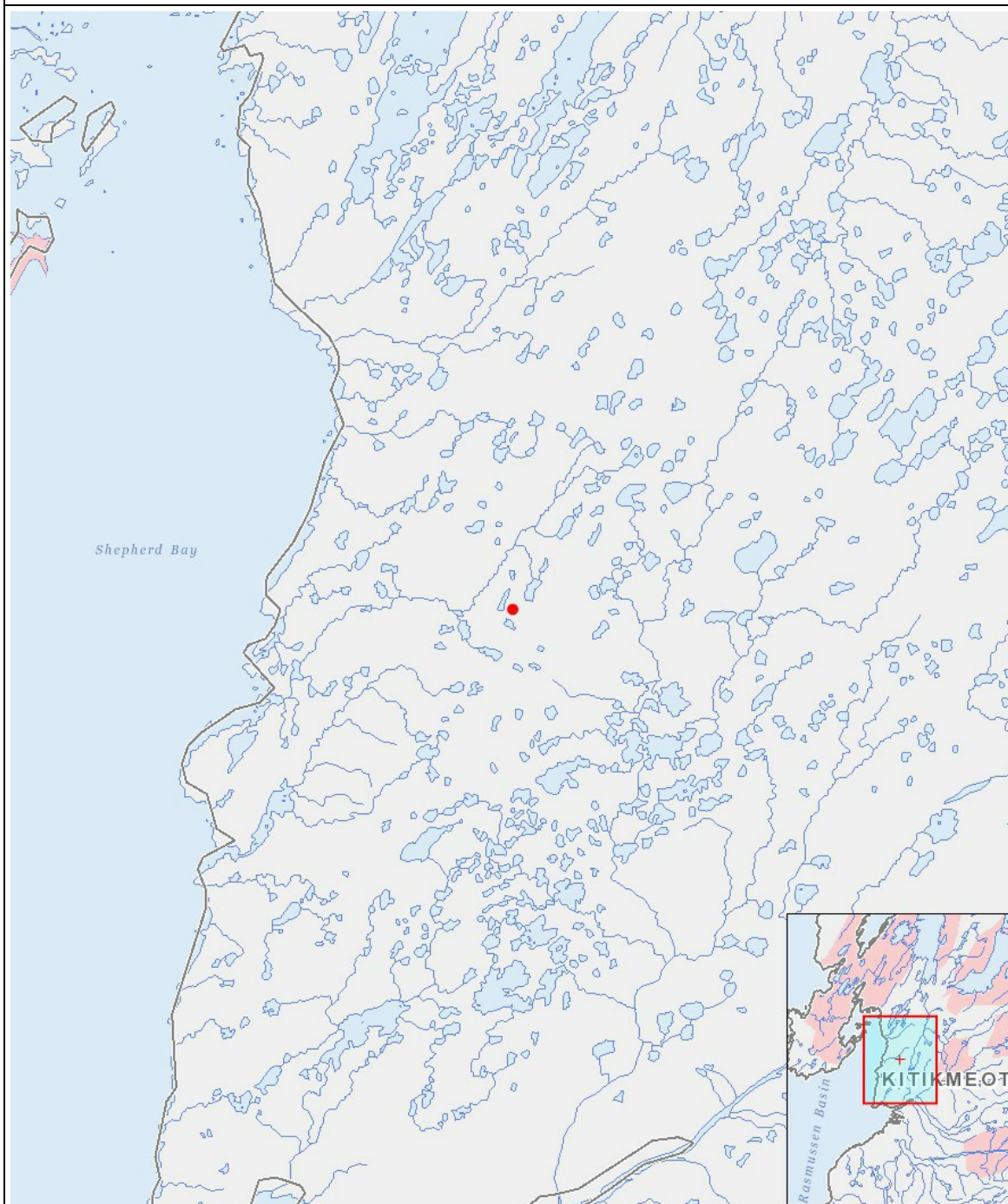


## Impacts

$e \rightarrow e \Delta^{96} CD \sigma^{97} r^C$      $d \rightarrow d \Gamma DC \dot{\sigma}^C D^C$      $d^b \rightarrow^{96} CD r^L L^C$

[illegible]
$$(P = \langle b \rangle \dot{a} p \cap \dot{a} \dot{a}^{\dot{a}})^C, N = \langle b \rangle \dot{a} \dot{a}^{\dot{a}} \langle \dot{a} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \rangle^C \langle \dot{a} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \rangle^{\dot{a}} \langle \dot{a} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \rangle^C, M = \langle b \rangle \dot{a} \dot{a}^{\dot{a}} \langle \dot{a} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \rangle^C \langle \dot{a} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \rangle^{\dot{a}} \langle \dot{a} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \rangle^C, U = \dot{a} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}} \dot{a}^{\dot{a}})$$

## PROJECT MAP



### LIST OF PROJECT GEOMETRIES:

1	point	CAM-3 Site
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