



New

## Scientific Research

11/20/2024 2:56:47 AM

from 2025-08-05 to 2025-09-02

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כחלק מפרויקט

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⁂ⲁⲛⲟⲩ: see attached document

▷ΔΑΝΔ<sup>c</sup>: see attached document

$\Delta_{\mathcal{D}^b \cap \mathcal{D}^c}$ : see attached document

Inuinnaqtun: see attached document

## Personnel

Personnel on site: 110

Days on site: 45

Total Person days: 4950

Operations Phase: from 2025-08-05 to 2025-09-02

Closure Phase: from 2025-08-13 to 2025-09-05

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[illegible][illegible][illegible]

$\subset \Delta^{\text{a}} j^c \wedge J^{\text{a}} q \triangleright \dot{n} \triangleleft^{\text{a}} r^{\text{ab}} C \triangleright l L r^c$

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ᐸᓄᓂᐸᓄᓪᐳᒃ ᐸᓄᓂᐸᓄᓪᐳᒃ	in the process of applying	Not Yet Applied		
ᐸᓄᓂᐸᓄᓪᐳᒃ	Enviornmental Impact Screening Committee (EISC), application in progress	Not Yet Applied		
ᐸᓄᓂᐸᓄᓪᐳᒃ ᐸᓄᓂᐸᓄᓪᐳᒃ	Feedback from Parks Canada After discussing with our colleagues, we can confirm there is no Parks Canada specific permit requirement from a nautical or scientific perspective for your expedition	Active		
ᐸᓄᓂᐸᓄᓪᐳᒃ ᐸᓄᓂᐸᓄᓪᐳᒃ	In the process of applying	Not Yet Applied		
ᐸᓄᓂᐸᓄᓪᐳᒃ	Government of CanadaApplication for consent to conduct marine scientific research	Applied, Decision Pending		

### Project transportation types

[illegible]

### Project accomodation types

Δρ<sub>α</sub>ℓ<sub>α</sub>

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Kongsberg Discovery EK80 (38, 120, 200 kHz)	1	N/A	Single-beam echosounder, hull mounted sensor
RDI 75 kHz, Kongsberg Discovery CP 300 kHz	1	N/A	Acoustic Doppler Current Profilers, Hull mounted
WS700-UMB Smart Weather Sensor	1	N/A	Temperature, relative humidity, precipitation intensity, precipitation type, precipitation quantity, air pressure, wind direction, wind speed, radiation Mast mounted sensor
Three Ocean Sonics hf hydrophones	1	N/A	record passive acoustics, hull mounted sensor
WS100 Radar Precipitation Sensor / Smart Disdrometer	1	N/A	Mast mounted sensor for Rain/precipitation quantity, rain/precipitation type (Rain, snow, sleet, freezing rain, hail)
Apogee SI-421-SS. Narrow field of view infrared radiometer sensor	1	N/A	Mast mounted Sea Surface skin temperature
CTD rosette	1	n/A	Temperature, conductivity, dissolved oxygen, chlorophyll A, turbidity, backscatter pH, PAR Seabird SBE19plus V2 SBE43 DO CHL-a & TURBIDITY ECO-FLNTU SATPAR PAR-LOG ICSW, SATPAR SURFACE/REFERENCE PAR SBE18 pH
Ferrybox, sensors of flow through system	1	N/A	installed on board Temperature, conductivity, dissolved oxygen, turbidity, chlorophyll A
Quantum SQ-522 PAR sensor	1	N/A	Mast mounted sensor, Optical sea awarness
WP2 plankton net, mesh size of 180 micrometer.	1	N/A	Zooplankton Zooplankton net deployed from vessel
Onboard filtration and qPCR/sequence analyses and water filtered for post cruise lab analysis	1	N/A	Water samples for eDNA analysis, Water samples collected from vessel flow through system and water bottles on CTD rosette (12x2.5l) for microplastics analysis, isotope analysis
Box corer	1	50cm x 50cm	seafloor sediment extraction
Multicorer	1	6 corers à 10cm diameter	seafloor sediment extraction

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Arctic grade Marine Gas Oil Sulphur content <0.05%Alternativt Marine Gas Oil Sulphur content <0.05%.Usually only filled 85%	fuel	3	1179	3537	Cubic Meters	Fuel for the sailingship Statsraad Lehmkuhl
16% Formaldehyde	hazardous	1	0.1	0.1	Liters	preservation of benthic invertebrates
Ethanol	hazardous	6	1	6	Liters	preservation of benthic invertebrates anf fish larvae
4% Formaldehyde	hazardous	8	1	8	Liters	preservation of zooplankton samples

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$\triangleleft^b \mathbb{C} d^c$ 

$\Delta^b C d r n \sigma \Delta^c \sigma^c$

<b>ᐱᓕᑎ ᐊᒃᔭᐅᖋᒪᖁᗛ</b>	<b>ᖄᓂᐃᗝᑐᖄ ᐊᑲᐇᑦ</b>	<b>ᖄᓂᐍᓯᓙ ᐊᑲᐇᑥ</b>	<b>ᖄᓂᖄ</b>	<b>ኣኢሊᖄᐅᐆᖄኤᖄᓂᐅᓈᐊᖄᑐᗛ</b>
<b>ᐱᓕᑎ ᐊᒃᔭᐅᓈᐊᖄᑐᖄᖄ</b>		<b>ካᖄᓶᓈᓈᐊᖄᑐᒃᔭᐅᓂᗛ</b>	<b>ᐊᑲᐇᖄᐇᐅᓈᐊᖄᑐᗛ</b>	
Waste disposal	ᐊᑲᐇᑥ ᐃᑦᐊᓚᐇᐅᖋᓴᓂᖄᑐᗛ	N/A	we will keep our waste on board the ship until we reach anchorage to avoid stressing the area	N/A
Marine Based Activities	ᖄᓂᖄᐇᓕᓚᓂᓈᖄ	N/A	The ship has treated sewage on board which according to international regulations	only cleaned and treated Sewage will be released

**◀◁▷▶C♯<sup>c</sup>D<sup>c</sup> ◀<sup>b</sup>D<sup>♭</sup>C▷F<sup>c</sup>L<sup>c</sup>**

Aquatic species, including habitat and migration / spawning --> hunting, spawning areas will be avoided. Effect on migration will be minimal as the ship will only sail through the areas, with short station stops of <24hours along the way for sampling activities.

# **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

## SECTION G1: Well Authorization

## SECTION G2: Onland Exploration

## SECTION G3: Offshore Exploration

## SECTION G4: Rig

## SECTION H1: Vessel Use

LOA (in reference to fees etc.): 84,60 mLPP: 72,40 mMax Beam (Hull only): 12,60 mMoulded depth: 7,32 mMax. Draft: 5,50 mMax. Air draft above sea level: 48,00 mHighest mast above main deck: 45,00 mFuel tank capacity: 90 m3Fresh water capacity in tanks: 120 m3GRT: 1516 tNRT: 454 tDisplacement: 2231 tNumber of sails: 22Total Sail area: 2026 m2Max. speed: Engine: 10 knots / Sail: 17 knotsCrew and traineesMax. number of voyage trainees 150Crew: 25Seating area below deck: 80 + 96MachineryMain Engine: Bergen Diesel-KRM6 -750 rpm 827 kWGear: Volda ACG - 450Propulsion system: Rolls Royce / Kamewa: CCP 4 bl. dia. 2,25 m 794 kWBow thruster: Rolls Royce Type 45 TV 270 kWSteering gear: Rolls Royce /Frydenbø HS 40Generator 1 og 2: Caterpillar – C 7.1 -150 kWShaft generator: ABB, PTO 300 kWBatteri: Kongsberg Marine 360 kWhEmergency generator: Volvo Penta-TAMD 71B/Stamford 90 kWElectrical power system: 400 V – 50Hz, 230 V - 50Hz - three phaseMain switchboard aft: ABB - 230 VMain switchboard forward: Rolls Royce/ TB- Austevoll 400 V / 230 VEmergency switchboard: TB- Austevoll 230 VHSG switchboard: Rolls Royce / TB AustevollAutomation: Rolls Royce: ACONSafety equipmentMOB rescue boats: (2) 6 person Zodiac 600 w/ 90 / 80 HK outboardsLiferafts: (2) 65 person DKR + Viking open(4) 50 person DKS Viking(8) 25 person DK+ VikingEvacuation slides (Inflatable): (2) Viking MinislidesSurvival suits (Full body): (181) VikingLifejackets (Thermal): (195) adult / 40 (16) child / 10 infantFirefighting equipmentAddressable alarm system: ACON IAS systemEngine room: Halotron inert gas remote extinguishingEmergency generator room: Halotron inert gas remote extinguishingAccommodation and storage areas: Marioff Hi-fog water mist extinguishingBattery room: Marioff Hi-fog water mist extinguishingNavigation equipmentRadar (ARPA): (2) X-Band KM 25 KwECDIS (Full): (2) K-NAV Stand AloneAIS: Simrad AI 70Navtex: Furuno NX 700 BGPS: Kongsberg SeaPos 320Gyro compass: Simrad /Robertson GC 80Echo sounder: Skipper GDS 101Doppler Speed Log: Furuno DS 80Radio Station GMDSS A3MF/HF: Sailor CU5100 250W DSCVHF: Sailor RT5022 DSCSAT-C: Sailor 6110 mini-CEPIRB: Tron 30 S MK IIRadar Transponder: Tron SARTSatcom Voice/Data: Sailor VSAT 900 High PowerSatcom Voice/Data: Iridium Pilot Captain PhoneInternal communicationPA/Intercom: Vingtor Marine VMP-32/FUEL: arctic grade marine gas oil.Sulphur content <0.05%

## SECTION H2: Disposal At Sea

## SECTION I1: Municipal Development

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## Miscellaneous Project Information

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## Cumulative Effects



## Impacts

$\mathbb{A}^1_{\mathbb{A}^1} \xrightarrow{\sigma} \mathbb{A}^1 \xrightarrow{\tau} \mathbb{A}^1 \xrightarrow{\rho} \mathbb{A}^1$

[illegible]
$$(P = \langle b \rangle_{\mathbb{A}^1} \cap \mathbb{A}^1 \times \mathbb{A}^1, N = \langle b \rangle_{\mathbb{A}^1} \cap \mathbb{A}^1 \times \mathbb{A}^1 \times \mathbb{A}^1, M = \langle b \rangle_{\mathbb{A}^1} \cap \mathbb{A}^1 \times \mathbb{A}^1 \times \mathbb{A}^1 \times \mathbb{A}^1, U = \langle b \rangle_{\mathbb{A}^1} \cap \mathbb{A}^1 \times \mathbb{A}^1 \times \mathbb{A}^1 \times \mathbb{A}^1 \times \mathbb{A}^1)$$



7 point	Polyline is alternativ route, if weather conditions or other conditions demands/allows us
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