Project Dashboard

Paallavvik Joint research/expedition between Wild Blue Media, Red Bull, University of

Glasgow (149557)

Proposal Status: Conformity Determination Issued

Project Overview

Type of application: New

Proponent name:	Thomas Gaisford
Company:	Wild Blue Media

Schedule:

Start Date: 2021-07-19
End Date: 2021-08-28
Operation Type: Annual

Project Description:

Dr Lydia Hallis has been researching the origins of the Earth's water using rock samples only found on Paallavvik and potentially Cape Searle. These were collected by a different team on previous research trips- I believe the most recent being 2004. Lydia's pioneering ion microprobe work on these unique samples has supported a new theory that the Earth's water may be derived from the dust swirling around the Sun before the planets formed. This could make it more likely that there are other water-rich planets like Earth. Lydia's team's paper on this was published in Science and garnered international press attention: - https://www.theglobeandmail.com/news/national/earths-secretspreserved-in-the-arctic-cliffs-of-padloping-island/article30731254/ - https://www.sciencemag.org/news/2015/11/earthmay-have-kept-its-own-water-rather-getting-it-asteroids?rss=1 - https://www.bbc.co.uk/news/uk-scotland-glasgowwest-34808620 Lydia herself has never managed to get to Paallavvik to take new samples due to the difficulties of access. This is where Will Gadd, a world-leading Canadian climber and paraglider, supported by Red Bull as an athlete, is aiming to step in. Will Gadd will lead the expedition to help Lydia survey and collect rock samples from the picrite volcanics of Cape Searle and Paallavik for on-site chemical compositional analysis via XRF, and later analysis in Glasgow via ion microprobe. This is to establish the volatile element composition, including hydrogen and nitrogen isotope ratios, of the earliest melts from the proto-Icelandic mantle plume. This mantle plume is thought to represent an ancient deep mantle source region, untouched since the Earth's early history. The collected samples will be made available for study by other academics, including collaborators at the Scottish Universities Environmental Research Centre and the University of Alabama, who are interested in the noble gas contents of these samples. Wild Blue Media (UK) intend to film the process of the expedition and the exciting scientific breakthrough it could support. Permissions and support will be sought from persons within Nunavut- for help with logistics, travel and guiding. Due to Covid, we intend to minimise unnecessary contact with communities by travelling straight to Paallavvik and Cape Searle from Igaluit.

Personnel:

Persons:	20
Days:	14

Project Map

List of all project geometries:

ID	Geometry	Location Name
7841	polygon	We intend to camp and obtain rock samples via climbing from the Northern end of Paallavvik and, if possible, from the cliffs of

Cape Searle at the NE of Qaqaluit

Planning Regions:

Qikiqtani

Affected Areas and Land Types

Inuit Owned Surface Lands

Settlement Area

Project Land Use and Authorizations

Project Land Use Scientific Research Scientific Research **Licensing Agencies**

NRI: Scientific Research Licence

CWS: National Wildlife Area permit under the Wildlife Area Regulations

QIA: Land Use Licence I

Other Licensing Requirements

No data found.

Material Use

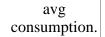
Equipment

Type	Quantity	Size	Use	
			To transport crew	
		10.93m x 3.15m	from Iqaluit. We	
			have a number of	
			transport options, but	
			a direct transport	
	1		from Iqaluit to	
Helicopter			Paallavvik by	
B2 or B3			helicopter would be	
		3.13111	necessary if Covid	
			restrictions are still	
			in place as it would	
			avoid contact	
			between crew and	
			communities.	
			The RIB would	
			allow visual survey	
small			of the sea cliffs on	
boat-	1	TBC	Paallavvik and Cape	
likely RIB			Searle, and transport	
			of climbers/scientists	
			to the rock face	
	1	10 metre span	World expert	
Paraglide/ paramotor			paraglider Will Gadd	
			will use this	
			equipment to obtain	
			high quality footage	
			of the cliffs- which	

the geologist will use to plan sample collection.

Fuel Use

Type	Container(s)	Capacity	UOM	Use
				White gas
Other		5		for camping
	3		Liters	stoves-
				approx 1
				litre/day
				For
				generators to
				recharge
				cameras and
				equipment.
				Amount of
				fuel used
Gasoline	7	20	Liters	will depend
				on power
				usage. Also
				to power any
				small boats
				we require to
				access sea
				cliffs.
				This would
				not be on
				Paallavvik.
				Helicopter
				would refuel
				in Iqaluit/
				Qikitarjuaq.
	1		Gallons	If we fly all crew from
Aviation				Igaluit >
fuel		720		Paallavvik
Tuci				by helicopter
				then the
				helicopter
				will perform
				est 3 round
				trips at 6
				hours/
				tripAssume
				40 GPH for
				40 GPH for



Hazardous Material and Chemical Use

Type	Container(s)	Capacity	UOM	Use	
No records found.					

Water Consumption

Daily Amount (m³)	Retrieval Method	Retrieval Location
0.08	Water will be retrieved from clean streams, using a water jug to carry water back to camp. No alterations to bed and banks for a watercourse will be made.	TBD depending on final camp location

Waste and Impacts

Environmental Impacts

We have contacted wildlife researchers familiar with the area for advice on minimising disturbance. We are timing the trip to the site (first two weeks of August) according to when we have been advised fulmar populations are more likely to have left, and will continue to consult with CWS for our application. Once on the island, our footprint will be as light as possible. We will have experienced operators from Nunavut to ensure camping set up and activities are as low impact as possible.

Waste Management

Waste Type	Quantity Generated	Treatement Method	Disposal Method
Sewage (human waste)	20 people for 14 days	If we are advised on any additional treatment procedures required we will absolutely undertake them.	A temporary pit-latrine will be constructed for human waste. The pit-latrine will be at least 70m from water. At the end of stay the deep hole will be covered with soil.
Greywater	Minimal dishwater for 20	All dish soaps and soaps will	Soaps will be used at least 70

people for all be meters from
14 days biodegradable water
sources.
Strained
dishwater
will be
scattered at
least 70
meters from
water
sources.