

**SCIENTIFIC RESEARCH LICENSE**

LICENSE NUMBER 04 006 24R-M

ISSUED TO: Brent Else  
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TITLE: "Weather, Ice, Ocean, and Freshwater Measurements to Understand Greenhouse Gas Cycles and Aquatic Ecosystems"

**OBJECTIVES OF RESEARCH:**

This project tries to understand how greenhouse gases. move through the Arctic environment. Greenhouse gases are the cause of climate change, and most people know that humans make them when we do things like drive cars or heat our homes. But greenhouse gases are also a natural part of ecosystems. One important place to find natural greenhouse gases like methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>) is in freshwater and seawater, where they exist as dissolved gases. CO<sub>2</sub> and CH<sub>4</sub> are important parts of these ecosystems because some organisms that live in the water make these gases, while others use them. For example, algae and other plants take CO<sub>2</sub> out of the water to make oxygen, while certain types of bacteria use up oxygen and make CH<sub>4</sub>. We want to study how gases like CO<sub>2</sub> and CH<sub>4</sub> work in these systems, and how those gases might eventually get into the atmosphere.

**TERMS & CONDITIONS:**

The holder of the licence will be bound by the terms and conditions of the Nunavut Impact Review Board Screening Decision Report and the Department of Culture & Heritage archaeological sites terms and conditions. These terms and conditions will form part of this licence.

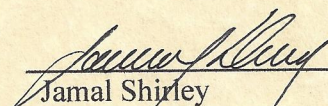
**DATA COLLECTION IN NU:**

DATES: April 2,2024 to December 31,2024

LOCATION: Cambridge Bay Surrounding Area

Scientific Research License 04 006 24R-M expires on December 31,2024

Issued at Iqaluit, NU on April 2,2024

  
Jamal Shirley  
Science Advisor

