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SCIENTIFIC RESEARCH LICENSE

LICENSE NUMBER 04 010 24R-M

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TITLE: Evaluation of Multidrug-Resistant Bacteria in the Active Soil layer, and Permafrost Regions of the Canadian High Arctic

OBJECTIVES OF RESEARCH:
One of the most noticeable impacts of Arctic warming is the thawing of permafrost –which could potentially reactivate many of the dormant microorganisms that are preserved in the permafrost soils for centuries. Some of these microorganisms may be pathogenic and/or antibiotic-resistant bacteria (ARB) that can lead to the resurgence of zoonotic diseases. Besides, antibiotic resistance genes (ARG) can be transported to the Arctic environment through the migration and movement of humans and birds. Since ARGs are now widespread among microbial communities, whether the extensive diversity of ARGs and ARB in environmental reservoirs is the result of anthropogenic influence is controversial. The research team will perform a comprehensive survey of the tundra soil, active layer, and permafrost not only to evaluate the presence of potential ARG and ARB using a culture-dependent and independent approach but also to delineate potential sources of anthropogenic and/or ancient origins of ARGs and ARB in the Canadian high Arctic region.

TERMS & CONDITIONS:
The holder of the licence will be bound by the terms and conditions of the Nunavut Impact Review Board Screening Decision Report (22YNO54) and the accompanying Department of Culture & Heritage archaeological sites terms and conditions. These terms and conditions will form part of this licence.

DATA COLLECTION IN NU:
DATES: August 1,2024 to September 31,2024
LOCATION: North Cambridge Bay

Scientific Research License 04 010 24R-M expires on December 31,2024
Issued at Iqaluit, NU on April 22,2024

for Jamal Shirley
Science Advisor

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