



14 May 2025

Reply to Attn of:

TI:269-4

To: Kelli Gillard, Manager, Impact Assessment
Nunavut Impact Review Board (NIRB)

From: Brian Glass, Principal Investigator, MEAD Project

Subject: Response to MEAD proposal comments received in screening

On May 13, 2025, NASA Ames (viz. the MEAD project) received a notice from the Nunavut Impact Review Board (NIRB or Board) regarding three areas of public concern that had been submitted to the Board in response to recent public screening of the Mars Exploration through Analog-site Drilling (MEAD) project proposal. MEAD appreciates the opportunity to address these comments and concerns, as below:

- *Recommendations related to other best management practices to aid in mitigation of potential impacts that might arise from the use of fuels and waste in the proposed activities.*

MEAD agrees with the suggestions made, that the use of the best current practices and technologies can mitigate spill risks and prevention. In both our NIRB application and that pending with the Nunavut Water Board, MEAD stated / states our intention to place both planned 2kW generators in impermeable portable berms for secondary containment, as well as the fuel drums used to refuel ATVs at a safe distance from camp. These, as well as spill kits and fire extinguishers, are specified in our field equipment request, which Polar Shelf has agreed to provide to MEAD. Spill-response and cleanup materials will be readily at hand, and all participants will be trained in on-site spill response to ensure compliance with best practices.

As agreed in our separate Water Board application, and in compliance with the *Nunavut Waters Regulations*, MEAD plans to be fully compliant with the requirement that hazardous materials (fuels) as well as sumps for greywater are "a minimum of thirty-one (31) meters away from the ordinary high-water mark (OHWM) of any waterbody". The planned base camp will be located at an existing site whose sump locations have been vetted and found satisfactory in the past for previous deployments by multiple other research teams.

- *Concerns regarding the power source for the TRIDENT drill and whether or not high-energy batteries would be used and how the Proponent would deal with cold-weather charging or physical damage that could trigger thermal-runaway fire and toxic-fume release in a remote tent camp.*

Batteries will not be used to power our TRIDENT drill. It will rely only on external power provided by one of the 2kW generators referenced above, following all best management practices for generator use. As a spaceflight prototype this drill is designed for externally-provided power (i.e., from its lander or rover host).

- *Continue to consult with the communities of Grise Fiord, and Resolute Bay, the Iviq Hunters and Trappers Organization, the Resolute Bay Hunters and Trappers Association and any other relevant organizations on the proposed project.*

MEAD will reach out and contact both the Resolute and Grise Fiord communities and relevant organizations ask for their concerns or requests, as well as any advice regarding any recent wildlife sightings in or near that area of Devon Island. If found or sighted, nests, dens or animals of any type will not be disturbed (and we will notify the communities). We will work to address any concerns or requests made by the local communities and organizations to ensure we respect them and their lands.

If there are further questions or additional clarifications required by the Board, MEAD will be happy to address these.

Sincerely,

A handwritten signature in black ink, appearing to read 'B. Glass'.

Brian Glass

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