

Comment No.	CIRNAC Comment	Nunatta Response
1	<p>CIRNAC notes that the application states that the proposed landfarm has a maximum treatment capacity of approximately 2,500 m³ of soil. However, the Spill Response Remedial Action Plan (RAP) estimates that the volume of petroleum-impacted soil requiring remediation ranges from approximately 1,975 m³ to 2,775 m³ (Spill Response RAP, Table 1). As the upper bound of the estimated contaminated soil volume exceeds the stated landfarm capacity, it is unclear why this landfarm capacity was selected during the design of the landfarm or how potential exceedances would be managed.</p>	<p>The spill response RAP was provided as a historical document for the NWB's reference on the source of contamination and does not represent current conditions. Estimated soil volumes in the initial spill were found to be smaller, and some reduction in volumes has occurred over time in the existing location.</p> <p>As part of the immediate spill response, Nunatta constructed land treatment cells in the area of the tank farm. Bioremediation has been effective at reducing concentrations in these cells – see (e.g.) analytical results in the July 2, 2025 survey and sampling letter. Nunatta estimates volumes requiring treatment are currently less than 500 m³ in the landfarm cells.</p> <p>PPD has no plans to exceed the proposed design volume of the landfarm.</p>
2	<p>CIRNAC notes that the application does not clearly identify the proximity of the proposed landfarm to the high water mark of any adjacent waterbodies. Photographs from the site visit show surface water pooling and runoff adjacent to the site, and the proponent notes that water was observed running along the eastern property boundary during the June 7, 2025 site visit (Survey and Sampling, Section "Site Visit", p. 4). It is unclear whether this observed flow represents a defined watercourse, or surface runoff, and whether the proposed landfarm location respects the minimum 31 m distance from the high water mark of waterbodies.</p> <p>In addition, the application does not clearly describe how surface water that appears to be present on site will be diverted away from the landfarm to maintain the integrity of the infrastructure. This makes it difficult to determine if the chosen landfarm site is compliant with regulatory requirements.</p>	<p>Because the site location was formerly used as an aggregate source for the Hamlet of Baker Lake, there is some surface water runoff towards Baker Lake.</p> <p>The Atlas of Canada topographic map identifies two creeks between the site and the Hamlet of Baker Lake, and Baker Lake to the south. The closest creek is 1.8 km from the site, and Baker Lake is more than 1.5 km to the southeast.</p> <p>This information will be added as background to the Monitoring Plan.</p> <p>Water observed during the site visit was generally downgradient and primarily off-site. The area of the construction of the landfarm was dry and does not appear to be affected by surface water runoff to the east of the site. There is a substantial gradient to the east of the site, and Nunatta does not expect that water will pool or collect upgradient of the landfarm (see e.g. Photo Log pages 1 and 2 of the letter).</p>

Comment No.	CIRNAC Comment	Nunatta Response
3	<p>CIRNAC notes that the application indicates “Changes in the existing topography from construction are also expected to change local water runoff patterns.” However, the basis used to determine those changes and the anticipated extent of such changes are not described (Application, Block 17). While the proponent indicates that impacts will be mitigated through “standard measures” and by designing the landfarm to limit changes to topography, the application does not provide details on the runoff assessment undertaken or on the specific design elements intended to address drainage. Observations from the June 7, 2025 site visit indicate surface water pooling and flowing throughout the site, suggesting that runoff management is a relevant consideration for the proposed works (Survey and Sampling, Site Visit, p. 4).</p>	<p>As noted above, runoff water observed during the site visit was to the east and downgradient of the site. Small amounts of ponded water from snow melt were observed at the site, but runoff water (see e.g., Page 5 of the Photo Log in the survey and sampling site visit of June 7, 2025) was downgradient and to the east. During the site visit, the site was dry, even given runoff water present downgradient to the east of the site.</p> <p>The construction of the landfarm will change the topography in the area by definition; however, the large gradient to the east is expected to direct any runoff water in the existing direction.</p>
4	<p>CIRNAC notes that according to section 4.0 (Site Characterization) of the Landfarm Supplemental Information Guidelines (SIG), information related to groundwater flow and direction, groundwater regime, surface water quality, groundwater quality, and potential seepage is proposed to be described in the annual report following construction of the landfarm. Deferring this information until post-construction limits the ability to establish baseline site conditions against which potential construction and operational effects on water and groundwater can be assessed and limits CIRNAC’s ability to properly review the application. Section 4.0 of SIG also identifies permafrost regime characteristics (including active layer depth and frost-related hazards) and the likelihood of flood events as baseline information requirements; however, for this project the SIG indicates that “no further investigation is planned” for these components (SIG, s. 4.0, items 4 and 5). The application documentation does not describe permafrost conditions, flood risk, or how these factors were considered in site selection or design. In the absence of such information, it is unclear whether permafrost and potential flooding have been evaluated as part of understanding the suitability of the site and the design of the proposed infrastructure.</p>	<p>Nunatta is not aware of the Draft Supplemental Information Guidelines previously being applied to landfarm construction and would welcome the opportunity to comment on the draft before it is officially implemented. For example, CIRNAC’s submission for the construction of a landfarm in Coral Harbour (Water Licence 1BR-COR2325) in 2023 was apparently not required to complete the supplemental SIG. These requirements are substantially greater than efforts that have previously been required for landfarm construction in Nunavut.</p> <p>The site is located in a former aggregate source for the Hamlet of Baker Lake. It is substantially above the area to the east, at above 60 metres above mean sea level. The surface elevation of Baker Lake itself is just above mean sea level. As noted above, nearby water bodies are at a substantial distance and are substantially downgradient from the site. As a result, flood risk is believed to be negligible.</p> <p>See attached topographic map for further information.</p> <p>The area was used as an aggregate source until it was exhausted. There is some overburden on top of bedrock in the area, but Nunatta does not believe that a detailed investigation of the permafrost regime is required.</p>

Comment No.	CIRNAC Comment	Nunatta Response
5	<p>CIRNAC notes that the Monitoring Plan provides general descriptions of landfarm water sampling methods and that samples will be collected either “directly from the landfarm” or from temporary storage containers (e.g., totes or tanks) prior to disposal, however it does not specify the sampling frequency, number of samples, or fixed sampling locations for landfarm water (Monitoring Plan, section 5.2; and section 6.2). In the absence of defined locations, timing, and sampling frequency, it is unclear how landfarm water quality will be consistently characterized over time or compared to applicable criteria.</p>	<p>Landfarm water is planned to be sampled with a view to disposing of the water. As a result, it will be sampled as necessary when pumping is planned.</p> <p>The goal of the sampling is to characterize the water for disposal. Given that the details of the placement of soil in the landfarm will be determined in the field, defined locations are premature. Nunatta expects that water pumped from the landfarm to temporary storage will also represent disposal conditions, so this location will also be appropriate.</p> <p>Nunatta will add one regular annual landfarm water sample, even when discharge is not planned, to the monitoring plan. See attached update to the Monitoring Plan for details. As with soil treatment, the concentrations of contaminants in landfarm water will only be relevant for disposal. As noted above, Nunatta does not believe that specifying a location is appropriate.</p> <p>Nunatta has also revised the soil sampling to a single annual round to match the surface and groundwater sampling programs.</p>
6	<p>CIRNAC notes that the application states that the proposed landfarm site is “accessible by road from the hamlet” (Application, Block 4); however, it is unclear whether any new access road construction is proposed as part of the project. The construction drawings depict an access road connecting the landfarm entrance to the main road (Construction Drawings, C-03, C-04 and C-06), however this feature does not appear on all submitted mapping (Construction Drawings, C-01 and topographic map). The application does not describe the construction of an access road as a project component.</p> <p>As a result, it is unclear whether the access road is already existing infrastructure or will need to be built. If the access road is part of the infrastructure to be built, it is unclear if factors such as changes to surface drainage and runoff have been considered. This limits CIRNAC’s ability to fully evaluate what building work is needed in this application and if proposed mitigation measures are adequate.</p>	<p>The site is located in a former aggregate source. It is accessible by road from the hamlet, although the definition of “road” in a quarry can be ambiguous. Nunatta expects that construction equipment will be able to travel to the site without road construction, although the placement of supporting aggregate in some locations may be required to limit rutting. Such aggregate placement will not have an effect on surface water runoff, as the goal will be maintaining the current elevations.</p>

Comment No.	CIRNAC Comment	Nunatta Response
7	<p>CIRNAC notes that the Monitoring Plan states that a minimum of 0.5 m of freeboard will be maintained at the downgradient end of the landfarm to prevent overtopping of berms (Monitoring Plan, section. 5.2). The application does not describe the basis for this freeboard height, including whether it accounts for extreme precipitation events or snowmelt. In addition, the documentation does not identify the modelling, assumptions, or design criteria used to determine berm height and freeboard requirements.</p> <p>This information would support the CIRNAC's assessment of the landfarm's capacity to manage water under anticipated and extreme conditions.</p>	<p>It has been Nunatta's experience that the climate in Nunavut and the soil conditions mean that all or nearly all water collected in the landfarm is required to maintain the soil at optimal conditions for bioremediation.</p> <p>There are 75 years of weather data available for Baker Lake, and the total precipitation has never exceeded 370 mm, substantially less than the minimum freeboard required.</p> <p>Empirical models of wave formation (see e.g., the US Army Corps of Engineers Shore Protection Manual Fig 3-27) suggest that even at high winds, waves on the landfarm will be of negligible size.</p> <p>We note that the value for freeboard is a minimum, and will likely be much larger during operations.</p>
8	<p>CIRNAC notes that Section 2.3 of the Spill Contingency Plan indicates that a spill kit will be transported to the landfarm site in vehicles when personnel is present. The documentation does not appear to identify a spill kit stored on-site, nor specify a designated location for the spill kit at the landfarm. In the absence of a permanent on-site spill kit, it is unclear how immediate spill response would be managed if a spill were to occur outside of periods when staff is present.</p>	<p>Nunatta will add a spill kit to the Spill Contingency Plan. See updated plan.</p>
9	<p>CIRNAC notes that the Spill Contingency Plan indicates that, in the event of a spill on muskeg, low-pressure water would be used to flush diesel toward a collection point (Spill Contingency Plan, section 5). The application does not explain the rationale for this response technique, or how the potential spread of contaminated runoff would be contained in a muskeg environment, which is typically characterized by high permeability and hydrological connectivity. It is also unclear why a spill response approach specific to muskeg is required for this site and how this scenario differs from other spill response measures described in the plan. This makes it difficult to evaluate if the proposed spill plan is appropriate to the project.</p>	<p>This discussion is based on CIRNAC's Fuel and Hazardous Materials Spill Contingency Plan submitted and approved for the similar Coral Harbour Site Remediation Project.</p> <p>Nunatta agrees that this is not necessary and will be removed from the plan. See updated Spill Contingency Plan.</p>

Comment No.	CIRNAC Comment	Nunatta Response
10	<p>CIRNAC notes that the Closure and Reclamation Plan indicates that, following a post-restoration period, no additional active measures are anticipated, and that the site is expected to be physically and chemically stable and ready for future use after one year.</p> <p>(Section 2.1). The documentation does not describe how this one-year timeframe was determined for the landfarm site, or how longer-term effect of the landfarm closure and potential off-site migration of contaminants would be properly assessed in a single monitoring visit the summer following restoration (Closure and Reclamation Plan, section 4). There is also no groundwater or surface water sampling plan included in the post-restoration monitoring section of the Closure and reclamation Plan, making it unclear how water quality would be assessed post-closure.</p> <p>Given the nature of landfarm operations, it is unclear how long-term restoration and stability are expected to be demonstrated within the proposed timeframe.</p>	<p>Nunatta will add a description of the collection of groundwater samples from the monitoring wells and make an explicit indication that monitoring wells will be abandoned in Section 4 in the year post monitoring.</p> <p>See attached updates to the Closure and Reclamation Plan for proposed language.</p> <p>In the absence of observed impacts in soil or groundwater, it is unclear what long-term effects are anticipated by CIRNAC. Multi-year monitoring of sites to ensure the absence of off-site migration is typically reserved for locations where remediation has been conducted or where contamination in soil or groundwater has been observed, which is not anticipated here. In the absence of impacts observed after removal of the landfarm, additional monitoring should not be required.</p>
11	<p>CIRNAC notes that the application states that “PPD has consulted extensively with the Hamlet” and that the Hamlet supports the project and has made land available for the landfarm (Application, Block 20). However, the application package does not include consultation records. In the absence of these records, it is unclear how the consultation process was carried out and what issues were raised and how they were addressed.</p>	<p>See attached letter for an indication of the Hamlet’s views on the project and their desire to proceed with the project in a timely manner.</p>
12	<p>CIRNAC notes that the application requests a water licence term from June 2026 to June 2031 (Application, Blocks 24 and 25). While this period covers the proposed construction and operational phases, the project schedule indicates that closure and post-closure activities are planned to occur beyond the requested licence expiry date, from June 2031 to September 2032 (Application, Block 24). Without the terms of the licence covering this period, it is unclear how water use, waste, and monitoring activities associated with closure and post-closure would be regulated once the licence expires.</p>	<p>PPD is prepared to revise the length of the submission at CIRNAC’s recommendation. PPD requests a change in term length to ten years.</p>

Comment No.	CIRNAC Comment	Nunatta Response
13	<p>CIRNAC notes that the Spill Response RAP references Attachment 1 – Figures (Figures 1 to 4) as key supporting material for site conditions, contaminated soil locations, assessment areas, and the proposed landfarm location. However, Attachment 1 does not appear to be included in the submitted RAP (Spill Response RAP, Attachments).</p> <p>In addition, the Operations and Management Plan references Figure C-01, but this figure is not included in the document (Operations and Management Plan, Figure list). The absence of these referenced figures limits the ability to fully review the documents</p>	<p>As noted above, the Spill Response RAP is provided as a narrative historical document about the nature of the original spill. Recommended landfarm locations, soil contamination locations, and other details are no longer current and do not relate to the construction of the landfarm on the site selected. The document was prepared by another consultant and has not been provided to Nunatta. As a result, further details and figures cannot be provided.</p> <p>Figure C-01 was provided to the NWB as part of the submission as 06 Construction Drawings.pdf. In the interests of keeping files small, Nunatta did not attach duplicate drawings to every plan.</p>