Department of Environmental Conservation
Response to Comments

for

Teck Alaska Inc., Red Dog Mine

APDES Permit No. AK0038652

Public Noticed January 30, 2026 – March 2, 2026

April 9, 2026

Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program
555 Cordova Street; Anchorage, AK 99501

1 Introduction

1.1 Summary of Facility / Permit

Red Dog Mine is open pit mine yielding ore rich in lead and zinc. APDES permit AK0038652 authorizes discharge of treated mine drainage to the Middle Fork of Red Dog Creek. Regardless of mine operations, precipitation falling on the facility must be captured, treated, and discharged to ensure the tailings storage facility dams do not overtop and protect downstream resources.

Currently, the expired and extended APDES permit contains a Compliance Schedule that has been in effect since May 19, 2021. DEC issued the original Compliance Schedule responding to region-wide permafrost thawing that elevates naturally occurring constituents in local waters, including the receiving waters of the mine's discharge. The term of the current Compliance Schedule will expire after May 19, 2026. Required monitoring indicates that thawing permafrost impacts continue unabated. DEC proposes extending the Compliance Schedule continuing the interim total dissolved solids (TDS) annual mass limits through the extended Compliance Schedule. Extending the Compliance Schedule and maintaining the permit's protective limits prevents an increased discharge of any pollutants, including TDS, and ensures safe operation of the tailings impoundment. Additionally, the extended Compliance Schedule requires completion of either an annual milestone or annual reporting on progress toward milestone completion.

Under 18 AAC 83.425, on a case-by-case determination, the Compliance Schedule was extended because there is no reasonably available remedy to the thawing of permafrost and its impact on the receiving waters around the Red Dog Mine. Considering the inadequacy of the original Compliance Schedule's five-year term, good faith efforts exhibited by the permittee, complexity of considerations, and gravity of circumstances involved, DEC finds that the 10-year extension is as soon as possible in this case. An inability to treat and discharge accumulating precipitation under the permit's protective limits could result in catastrophic downstream impacts including the release of pollutant laden untreated mine drainage or potential dam failure.

1.2 Opportunities for Public Participation

Alaska Department of Environmental Conservation (DEC or the department) proposed to reissue an APDES wastewater discharge permit for Red Dog Mine. To ensure public, agency, local government, and tribal notifications and opportunities for participation during the permit development process, the department completed the following:

- identified the permit on the annual Permit Issuance Plan posted online at: https://dec.alaska.gov/water/wastewater/pip/
- notified potentially affected tribes and local governments that the department would be working on this permit via letter, fax and/or email
- formally published public notice of the draft permit in the Anchorage Daily News

- posted the public notice announcing a 32-day public comment period on the department's public notice web page on January 30, 2026
- sent email notifications via the APDES Program List Serve when the draft permit was available for review

The department also requested comment from the Alaska Department of Natural Resources, Alaska Department of Fish and Game, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the Environmental Protection Agency.

The department received comments on the draft permit and supporting documents from three interested parties: 1) NANA Regional Corporation (NANA), 2) Kivalina IRA Council (KIV IRA). And 3) U.S. Fish and Wildlife Service (USFWS). NANA supported the permit reissuance. Whereas KIV IRA and USFWS provided more detailed comments. Comments outside the scope of the permit have been recorded and passed on as recommendations or suggestions. No permit changes resulted from comments.

The tables below summarize comments submitted by KIV IRA and USFWS and DEC's responses to the comments.

Commenter	Comment #	Comment	DEC Response
KVL IRA	1	Does Teck Alaska Inc. (Teck) use aqueous film-forming foam (AFFF) onsite for firefighting response? • If Teck uses AFFF onsite for training exercises and fire response, is discharged AFFF collected? • If AFFF is used at the Red Dog Mine and AFFF discharge is collected, is this material discharged to the tailings impoundment facility? • Does any AFFF material used at Red Dog Mine contain per- and/or polyfluoroalkyl substances (PFAS)? If so, is the treated wastewater tested for PFAS contamination prior to it being discharged to Red Dog Creek? • It is understood the State of Alaska is working to incorporate new federal regulations (4.0 parts per trillion) into State water quality standards; how would Teck's Alaska Pollutant Discharge Elimination System (APDES) permit reissuance address this (i.e., would the permit be modified to address new standards or would the facility be grandfathered in under its current proposed permit reissuance and exempted from addressing any changes to Alaska's PFAS water quality standards)?	As noted, Alaska currently has no established State water quality criteria/ standards for PFAS compounds. However, Teck confirmed that PFAS is no longer contained in the site's AFFF. PFAS has not been in the primary AFFF at Red Dog Mine since 2019, and all old AFFF was fully removed from the site in 2025.
KVL IRA	2	Alaska Department of Environmental Conservation (DEC) should require that Teck's end-of-pipe (EOP) limits be no greater than existing State water quality standards minus the background concentration in Red Dog Creek prior to the 2019 discharge season. Allowing Teck to discharge the entire water quality standard at the EOP violates the intent of having state-assigned limits.	Regulations allow for reasonable environmentally protective limits other than the Alaska Water Quality Standards (WQS) as demonstrated by site specific water quality criteria.The APDES permit compliance schedule provides legally binding, time-limited, interim requirements for meeting effluent limits (actual in-stream WQS in this case) before or by end of the compliance schedule's 10-year effective term (max APDES permit term is/remains 5-years). A compliance schedule provides an allowable means by which a permittee may come into or return to permit compliance in specific cases/ circumstances, e.g., if a permittee, previously in compliance, can no longer comply with its permit due to circumstances beyond its control.

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KVL IRA	3	DEC should insist that Teck provide a complete reference section and active links to or copies of any studies it cites in its permit reissuance request supporting material. For example, EcoTox (2021) and U.S. Geological Survey hyperlink for The Rusting of Arctic Rivers: Freshwater Ecosystems Respond to Rapidly Uptaking Metals cited in Teck (2025) should be included with the DEC Public Notice.	DEC is not aware of a mechanism by which to require or compel an applicant to provide such information in this manner.
KVL IRA	4	Is the length of time being considered for the APDES permit reissuance appropriate? Red Dog Mine is anticipated to run out of ore in approximately 2032, and this permit reissuance would extend well past that time. Will DEC require a new permit or a permit modification if the Red Dog Mine moves into mine closure or if the Red Dog Mine Life Extension (MLE) project moves forward to production?	The permit term is for a 5-year period per standard practice, and a renewal of the permit will be required in 2031. The Red Dog MLE project was not proposed as part of this permitting action by Teck and therefore is not within its scope. It would be anticipated that MLE's potential impact on the site's water management would be addressed in any subsequent modification including its impact on the planned investigations under the proposed compliance schedule.
KVL IRA	5	If Teck and DEC firmly believe that discharging wastewater to Red Dog Creek is environmentally beneficial (as the discharge water meets WQS), why is DEC not requiring that the Red Dog Mine discharge to the creek (i.e., dismissing the Chukchi Sea discharge pipeline)?	Climate change impacts have naturally degraded water quality in the receiving environment. Due to these naturally occurring changes, it is prudent to evaluate potential alternatives for Red Dog's wastewater discharge. It is expected that Teck will continue discharge to Red Dog Creek in an environmentally protective manner throughout the term of the permit and compliance schedule. An applicant may propose and apply to discharge to the waterbody of its choosing, based on any number of factors.

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KVL IRA	6	The Red Dog Mine was initially permitted by DEC to allow for treated wastewater to be discharged to Red Dog Creek while requiring the receiving waterbody maintain State of Alaska water quality standards. Climate change permafrost impacts now hinder the ability to operate under these initial requirements and the identified solution is to change the permit conditions so the discharges can continue, a necessity due to the accumulation of precipitation and process water in the tailings impoundment facility. Considering the ongoing changes in the natural environment due to continuing climate change, what stipulations will DEC propose to address future changes to the natural environment? If climate change is going to continue to result in permafrost melt and changes to background water quality concentrations, then the Red Dog Mine needs to be managed to address changing inputs and discharge needs, up to and including the capability to discharge water year-round, an operational change that could only occur under Option C.	Teck is investigating various options for discharge including locations such as Red Dog Creek and to a marine environment. While it is difficult to predict, potential changes to the environment due to climate change are included in the investigations. Teck uses various Global Circulation Models (GCMs) and Shared Socioeconomic Pathways (SSPs) in its investigations to assess climate change impacts to the Red Dog Mine, including to its water management. Climate change has been a part of Red Dog's water balance modeling for more than 10-years and has been shown in various discussion with the Kivalina Council. The climate change models, assumptions, and scenarios used in the water balance modeling have changed in that time frame as climate change science is quickly evolving.
KVL IRA	7	Teck is requesting a deviation from DEC's standard APDES permit that is protective of water quality, including the time period (ten years versus five), and eliminating the requirement to maintain the receiving waterbody's water quality standards. Teck is requesting this deviation for ten years after already operating under this deviation for previous five years. For this exceptional requested deviation from Alaska Administrative Code (AAC), Teck offers little to no actual commitments to advancing any of the identified options that would allow the Red Dog Mine to operate in compliance with Alaska regulations. DEC should deny this permit reissuance until Teck can offer concrete and detailed milestones with associated deadlines. Further, DEC should institute appropriate penalties for failing to meet any commitments under the permit; these penalties should limit or cease operations at Red Dog and not be tied to nominal financial penalties.	The APDES permit compliance schedule will provide legally binding, time-limited, and interim requirements for meeting effluent limits (actual in-stream WQS in this case) before or by end of the compliance schedule's 10-year effective term (max APDES permit term is/remains 5-years). A compliance schedule provides an allowable means by which a permittee may come into or return to permit compliance in specific cases/ circumstances, e.g., if a permittee, previously in compliance, can no longer comply with its permit due to circumstances beyond its control.

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KVL IRA	8	While Teck (2025) does discuss how some options would potentially overlap or complement future mine closure and reclamation efforts, there is no discussion on how the options would interact or overlap with the Red Dog MLE project. • While the MLE is still in the exploration phase and there is no known commitment from Teck that the MLE will advance to production, the complete lack of discussion on how the MLE and the APDES reissuance would interact leaves DEC and the public with only a partial understanding of permit reissuance impacts. • Each option described in Teck (2025) should have a separate section discussing how it would affect or be affected by the Red Dog MLE project. • Teck may very well benefit from articulating how MLE operations, mine closure and reclamation, and projected climate change impacts will impact day-to-day operations. Examining current and future mine site activity holistically would provide for a more informed decision on how to best address water management and water quality. The Council believes Teck may ultimately benefit from such an exercise as it would lay clear the pipeline costs and any efficiencies that would be realized for the MLE and closure that have not been considered when examining pipeline construction costs only.	The Red Dog MLE project was not proposed as part of this permitting action by Teck and therefore is not within its scope. It is anticipated that MLE's potential impact to the site's water management would be addressed in any subsequent modification including its impact to the planned investigations under the proposed compliance schedule. The base Red Dog Operations (RDO) water balance model already contains a flow rate assumption on water volume from the MLE project, but information would need to be updated upon any subsequent permitting action to fully incorporate MLE water to the site. At the time of a permitting action to include MLE formally to the Red Dog water balance, all the investigations under the compliance schedule will be updated accordingly.

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KVL IRA	9	DEC (2026) Section 3.0, Regulatory Basis, states: "Under 18 AAC 83.425, on a case-by-case determination, the Compliance Schedule was extended because there is no reasonably available remedy to the thawing of permafrost and its impact on the receiving waters around Red Dog Mine. Considering the inadequacy of the original Compliance Schedule's five-year term, good faith efforts exhibited by the permittee, complexity of considerations, and gravity of circumstances involved, the Department finds that the 10-year extension is as soon as possible in this case. • What "good faith efforts" has Teck demonstrated over the previous five years towards meeting these objectives? • DEC should clearly communicate what efforts Teck has undertaken under the previous permit modification (2021-2026) that constitute "good faith efforts" to address these changing conditions. For example, DEC should make publicly available all of the Chukchi Sea Discharge Pipeline studies that were conducted during this period. • For example, a wastewater discharge pipeline to the Chukchi Sea has been under consideration for nearly 20 years and has been studied multiple times, including Kuna Engineering's 2023 summary re-evaluation of past studied concepts. (The Council is aware of at least seven pipeline studies completed between 2008 and 2014, though neither Teck nor DEC has provided the Council with copies of these studies.) As the Chukchi Sea pipeline is one of three identified Options to meet regulatory compliance, the level of inactivity to examine this Option since the last standalone pipeline study was prepared in 2014 (Potential Effects of an Elevated Pipeline on Caribou [ABR 2014]) indicates a complete lack of "good faith effort." DEC, please provide a clear explanation of what efforts Teck has taken since 2021 on evaluating the Chukchi Sea discharge pipeline that constitutes a "good faith effort." • DEC, please provide the Council copies of the original pipeline studies.	Teck provided to DEC the technical reports resulting from all investigations conducted - as required under the 2021-2026 permit modification & compliance schedule, by the required deadlines. DEC understands many, if not all, of the reports were provided by Teck to the Kivalina IRA Council through their Community and Government Relations Department. Many of the reports were already provided to the Kivalina Council. However, that information is publicly available by filing a request for information.

Commenter	Comment #	Comment	DEC Response
KVL IRA	10	As this current proposed permit reissuance stands, there are no deadlines for Teck to advance any of the options (A, B, C, or D) beyond the 10-year permit timeline. Teck (2025) provides four distinct phases over ten years but does not include any milestones. • DEC (2026), Section 4.0, Compliance Schedule Extension, must include individual milestones for each Option provided in Teck's Compliance Schedule Extension (June 2025). Currently, the DEC required milestones simply call for providing progress reports and completing four phases, which as written by Teck, are ambiguous at best. DEC's failure to include detailed milestones with mandatory deadlines is DEC simply yielding its responsibility to industry without meaningful commitments or requirements to improve the wastewater discharge situation that greatly concerns Kivalina and the Council. • How will DEC determine if Teck is complying with its proposed phased schedule? • What penalties would Teck be subject to for failing to meet the compliance schedule? • All compliance schedule reporting must be made public and readily accessible on DEC's website.	In the permit's Appendix D, *Compliance Schedule Extension,* it requires that Teck submit formal reports at the end of Phases 2, 3, and mid-Phase 4. As stated in Appendix D, the reports inform DEC in advance of final decisions, document milestones, and include DEC engagement in final decisions. Teck progress reports serve to ensure DEC engagement throughout the 10-year term of the compliance schedule.
KVL IRA	11	Teck (2025), Section Compliance Schedule 10-Year Term, notes that Teck will determine which Option to pursue at the end of Phase 2 (Year 3). • Will DEC have a say in what Option(s) Teck will pursue at the end of Phase 2? • The way the draft permit is currently written would allow Teck to pursue any Option without requiring that Option to be successful in meeting its final goal (water quality compliance) while meeting the requirements of the permit reissuance. After 10 years, this permit may very well require an additional 10-year extension so Teck can continue to investigate other Options. What penalty will be leveraged against Teck if they are still noncompliant after this 10-year permit expires? Teck cannot be allowed to operate indefinitely while being out of compliance when a solution is readily available—DEC should require Teck to construct the Chukchi Sea discharge pipeline as soon as possible.	In the permit's Appendix D, *Compliance Schedule Extension,* it requires that Teck submit formal reports at the end of Phases 2, 3, and mid-Phase 4. As stated in Appendix D, the reports inform DEC in advance of final decisions, document milestones, and include DEC engagement in final decisions. Teck progress reports serve to ensure DEC engagement throughout the 10-year term of the compliance schedule.

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KVL IRA	12	DEC, please provide a clear explanation of how Teck's efforts between 2021 and 2026 justify postponing a proper APDES permit decision for 10 years. • How was the 10-year timeframe determined? • If Teck now needs 15 years (total) to address an ongoing problem, why was Teck only granted a 5-year schedule extension in 2021? • What assurances can DEC give the Council that this issue will be resolved at the end of the 10-year permit reissuance?	Refer to the *Statement of Basis for the Compliance Schedule Extension* along with its attachments for more information.
KVL IRA	13	If DEC moves forward with this permit reissuance, DEC must include a nonnegotiable requirement that Teck must resolve the issue by the 2036 deadline and will be granted no further extensions. If the issue has not been resolved by the permit expiration, Teck should only be allowed to apply for a new permit with fixed receiving waterbody water quality limits.	The APDES permit compliance schedule provides a legally binding, time-limited, interim requirements for meeting effluent limits (actual in-stream WQS in this case) before or by end of the compliance schedule's 10-year effective term.
KVL IRA	14	Teck (2025), Introduction, states: "Teck's preference is to continue discharging to outfall 001. Though cost intensive, option C of constructing a pipeline is included in case the other options are not feasible." DEC can hold Teck accountable to this statement by including a deadline for determining when option A or option B must be determined as being feasible. If option A or option B are not found to be feasible by this deadline, Teck must move forward with constructing a pipeline, and an APDES permit extension for discharging to Red Dog Creek will not be an available option following the expiration of this permit reissuance period.	In the permit's Appendix D, *Compliance Schedule Extension*, it requires that during Phase 3 of the compliance schedule, option A, B, C, or combination thereof will be chosen to advance through to completion by the end of the 10-year compliance schedule. As stated in Appendix D, it is possible a single or combination of options is preferred.

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KVL IRA	15	Option A, as described in Teck (2025), appears to largely rely on the efforts of others, including DEC regulators, and does not appear to specifically propose any direct actions by Teck. Teck articulates that two avenues of regulatory changes will be investigated to accommodate future discharges to outfall 001 by meeting in-stream total dissolved solids (TDS) limits: • Site-specific in-stream TDS limits. Teck sites a single study (EcoTox 2021) that concluded it is likely that TDS concentrations could be increased to approximately 2,400 milligrams per liter and still be protective of salmonid aquatic life. • Substitution of sulfate criteria. This alternative option would require regulatory changes from DEC. What commitments has Teck made to DEC to support making such regulatory changes? Has Teck offered to conduct or collaborate studies and analysis to inform DEC so it could consider such a regulatory update? Has DEC informed Teck that DEC is undertaking such studies independently? • Has Teck identified what studies it intends to undertake to complete these analyses? Has Teck identified to DEC any qualified partners or consultants who will be conducting specific studies in support of this Option? • How will DEC evaluate whether Teck has complied with the proposed compliance schedule phases? DEC should identify in the permit the evaluation tool that will be used to determine if Teck is complying with the schedule.	18 AAC 70 allows for site-specific criteria to be implemented when supported by appropriate data, information and investigations. Such changes may be allowed if demonstrated to be protective of aquatic life. It is incumbent upon the permittee to demonstrate to DEC, using approved methods, the safety of any of these regulatory changes.

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KVL IRA	16	In Teck (2025), it is noted that EcoTox (2021) completed a study on the effects of increased TDS concentrations on salmonids and concluded "that it is likely that TDS concentrations of up to ~2,400 mg/L would still be protective of aquatic life." • "Likely" is not something Teck should base its preferred option on and certainly not something DEC should accept as a path forward to being in compliance. This permit reissuance does not cite any past or ongoing studies Teck has been advancing to confirm whether this limit would be protective of resident fish, which is telling since almost 5 years have passed since EcoTox (2021) was published. • Considering this permit reissuance is being requested for 10 years following almost 5 years of activity under the existing permit, why has Teck not begun to study this already? • Why is Teck leaving it to DEC to change its previously established protective water quality standards considered a viable option for Teck to meet permit compliance at the end of the 10-year permit reissuance period? This may occur, but it is not a legitimate option for correcting an operation that is not meeting current State water quality standards and is instead operating under an exemption (and for five years now). • What other studies have Teck or DEC identified that support the conclusion of EcoTox (2021). Please provide copies of any relevant supporting studies.	The change of currently established WQS has not been proposed and is not under consideration as part of this permitting action. The cited study was referenced by Teck as it relates to one among several potential paths which might further be explored at some later, as-yet, undefined point in the future.
KVL IRA	17	Teck (2025), Table 1 (Pros and Cons of Main Water Management Options), states (under Con) that "Communities of Interest (COI) may not support." Although the Council has expressed this on many previous occasions, it appears to have gone unnoticed: **Kivalina, the Community of Interest, expressly does not support the continued discharge of wastewater to Red Dog Creek, a headwater for the community's potable water source and subsistence fishery (Wulik River).**	DEC recognizes and acknowledges the Council's position on this issue. Kivalina is not the only community of interest that Teck and the State must take into consideration.
KVL IRA	18	DEC, please provide a clear explanation of what efforts Teck has made to evaluate and lobby for regulatory changes that would resolve the Red Dog Mine's TDS discharge in-stream limits. These efforts may include coordinating with DEC, contracting with partners or consultants to conduct further studies, lobbying the Alaska Legislature, or any other direct actions that further Teck's goal under option A. Please provide a description of the actions Teck and/or DEC have taken to advance option A to date.	Regulatory changes have not been proposed and are not under consideration as part of this permitting action.

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KVL IRA	19	Teck includes a list of water management projects under option B that have been implemented at Red Dog Mine; however, Teck does not provide dates for when the projects were initiated or when they were completed. • Teck appears to be seeking regulator favor by identifying and itemizing a variety of projects that have been completed to support Red Dog Mine Operations, while many of the included projects do not directly address water quality, only Teck's efforts to reduce how much water needs managed. Teck does not show how these projects are linked with the loss of mixing zone use. • For example, "Accelerated dam construction" allows Teck to hold more water on site but does not address the issue of water quality (only the ability to delay water discharge). If Teck wants to provide an itemized list of improvements that is meaningful, they should resubmit their proposed Compliance Schedule with a table that identifies water management projects, start of construction date, start of operations date, cost, whether a project was required by regulation, and what aspect of Red Dog Mine operations the project was intending to address. • The project listing is poorly developed, and it is not possible to determine if some projects are being double counted, or if they were different phases or separate but complimentary projects. • For example: "Initial Gypsum addition ($3M)," "Reclaim system and WTP2 & sand filter system improvements ($5-10M)," and "WTP1 and 2 upgrades, including new gypsum addition system and associated enhancements (~$8M)." • Furthermore, it is unclear why there is a range of costs presented for projects that have been completed; is Teck unable to identify how much a project costs to construct and implement?	Teck provided this information in support of its request and application. The "loss of mixing zone use" is result of natural degradation of ambient receiving water quality (i.e., increasing TDS) in the mine vicinity - and generally in Arctic Alaska, and resultant decrease or loss of TDS-assimilative capacities of such waterbodies.
KVL IRA	20	Teck notes under option B that "Improvements after 2019 have enabled the mine to maintain compliance under the minor permit modification but have been in insufficient in enabling the site to reduce the total water volume managed on site due to increases in precipitation resulting from climate change." • How will a 10-year extension support Teck's concern about increased precipitation stemming from climate change? • How will DEC ensure that climate change impacts are accounted for in its permit reissuance? • Can updated water management structures and operations effectively address the anticipated increases in regional precipitation?	Climate change has been a part of Red Dog's water balance modeling for more than 10-years and has been shown in various discussions with the Kivalina Council. The climate change models, assumptions, and scenarios used in our water balance modeling have changed in that time frame as climate change science is quickly evolving.

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KVL IRA	21	Teck (2025) notes the limited utility of many of the potential projects and/or how they would be required to be completed for mine site closure; as such, option B is not a realistic option to address Teck's current APDES permit reissuance. • On diversions, "While there are likely few opportunities to divert clean water, other areas of the site will be evaluated." • On the overall approach under option B, "Many of the opportunities under option B may also be required in closure or improve closure water management and would therefore offset closure costs." • Option B is based on an unreasonable foundation for a permit modification and Teck lacks confidence that this is reasonable solution to meeting water quality discharge requirements.	In the permit's Appendix D, *Compliance Schedule Extension,* it requires that Teck investigate option A, B, C, or a combination thereof. As stated in the Appendix D, it is possible that a single, combination of 2, or all 3 options may be preferred.
KVL IRA	22	DEC, please provide a summary of discussions Teck has had with DEC about what would be required for the Red Dog Mine to be allowed to operate under EOP discharge limits versus mixing zone/receiving waterbody total pollutant limits.	Changes to the permit's in-stream TDS limits have not been proposed and are not under consideration as part of this permitting action.
KVL IRA	23	Many of the actions described under option B should be pursued by Teck regardless of the APDES permit because it lends itself to improved operations (e.g., reducing acid generation, expediting backfill and pit covering) and advance future required reclamation efforts. Reducing the amount of water requiring treatment allows for more effective use of the water treatment plants. • These efforts will offer Teck some level of incremental improvement in onsite water quality, but as Teck acknowledges, these efforts are not enough to address the increased precipitation in the region. • The Council applauds Teck's efforts to reduce or eliminate acid rock drainage, but these efforts should be acknowledged as being inadequate to address the Red Dog Mine's loss of the mixing zone in Red Dog Creek.	Currently, no specific compliance alternative has been selected or is proposed for implementation as part of this permitting action.

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KVL IRA	24	Considering the ongoing and ultimately unknown impacts of climate change, a year-round capable discharge pipeline to the Chukchi Sea would mitigate many of the unknowns related to water inputs at the tailings facility. For example, being able to discharge after freeze-up will offer additional assurances that the tailings dam would not fail due to the facility becoming overwhelmed. In fact, having the ability to discharge treated wastewater year-round may prove to be a substantial operational benefit to the Red Dog Mine. This pipeline will contribute to the MLE Project should it go into production, and it will provide additional flexibility and security following the Red Dog Mine closure.	Teck is taking potential climate change impacts into account for the investigations listed in the compliance schedule to ensure an informed decision can be made. While it is difficult to predict, potential changes to the environment due to climate change are included in the investigations. Teck uses various Global Circulation Models (GCMs) and Shared Socioeconomic Pathways (SSPs) in its investigations to assess climate change impacts on the Red Dog Mine. Currently, no specific compliance alternative has been selected or is proposed for implementation as part of this permitting action.
KVL IRA	25	Teck continues to question the operational feasibility of operating a discharge pipeline in Arctic conditions. However, DEC routinely permits pipelines on the North Slope—the engineering challenges and solutions are well understood and textbook solutions for operating such systems readily available. If Teck is going to rely on operational feasibility as being a substantial impediment to constructing the discharge pipeline, Teck should be required to disclose the technical analysis that led to that determination.	Teck is required to provide the prescribed progress reports to DEC, and that will engage and inform DEC on proposed solutions throughout the 10-year term of the compliance schedule. In the permit's Appendix D, *Compliance Schedule Extension*, it requires that Teck submit formal reports at the end of Phases 2, 3, and mid-Phase 4. This includes the requirement to determine whether to pursue or not a pipeline at the end of Phase. As stated, the reports will document decisions and schedule milestones and serve to guarantee DEC engagement in advance of final decisions. Currently, no specific compliance alternative has been selected or is proposed for implementation as part of this permitting action.

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KVL IRA	26	Teck and DEC frequently mention challenges with permitting a Chukchi Sea discharge pipeline, including obtaining rights-of-way (ROW) from the National Park Service (NPS) through Cape Krusenstern; however, the pipeline could likely be constructed within the existing ROW as part of a road embankment expansion. • If the ROW, as previously issued, does not explicitly provide that a pipeline would be permissible, Teck should identify this legal constraints and immediately engage with the agencies and individuals that can revisit this previous determination. • If the Alaska Industrial Development and Export Authority (AIDEA) was able to secure a permit to construct the Delong Mountain Transportation System (DMTS) road, then it seems highly likely that Teck, the State of Alaska, and the Alaska congressional delegation could secure a modification from the Department of Interior to allow a treated wastewater pipeline to be constructed within the existing road embankment or within a minor embankment extension.	In the permit's Appendix D, *Compliance Schedule Extension*, Phase 1, Year 1 requires a "ROW legal review, terrestrial and marine environmental baseline studies, pipeline engineering studies, permafrost geotechnical studies, cost/benefit studies, community outreach, and the initiation of dialogue with the Department of Interior on a pipeline ROW." Currently, no specific compliance alternative has been selected or is proposed for implementation as part of this permitting action. Permitting timeframes can and do range widely, depending upon a host of factors, and estimating a future permitting timeline is a very subjective and imprecise exercise.

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KVL IRA	27	Teck (2025) describes complying with the National Environmental Policy Act (NEPA) as an impediment to advancing option C. Teck dramatically overstates the implications of NEPA impacts on advancing a discharge pipeline project. • This stated concern ("could take 3 years") in Teck (2025) is disingenuous and exaggerated considering the U.S. Supreme Court 2023 Sackett v. EPA ruling and the 2025 proposed Waters of the U.S. Rule (90 FR 52498, 20 November 2025); which will greatly limit the extent of jurisdictional wetlands along the DMTS route. The wetland impacts are likely to be small enough that the U.S. Army Corps of Engineers (USACE) could very conceivably develop a Categorical Exclusion or brief Environmental Assessment to satisfy NEPA requirements and any NEPA review could be completed in less than one year. • For example, following the Sackett ruling, the proposed Graphite One mine located outside of Nome, Alaska, a proposed open-pit mine with an approximately 1,200-acre footprint, is being evaluated under NEPA using an Environmental Assessment and a Finding of No Significant Impact is expected in Fall 2026, approximately one year after the project's NEPA kickoff. • DEC cannot accept Teck's estimate "that the federal permit process, including NEPA, could take 3 years." This statement is absolutely false. This hypothetical timeline appears to be included to only cast doubt on the feasibility of a pipeline and has little basis in fact. Teck is anticipating USACE will require a Supplemental Environmental Impact Statement for the MLE project, and it anticipates that NEPA evaluation to take less than three years. How long does DEC think it is reasonable to estimate the time required to complete any necessary NEPA analysis?	Recent experience with potential major permitting efforts at Red Dog indicates 3 years is not unreasonable as it took more than 3 years to permit the A&A Exploration Road. Jurisdictional wetlands impacts will only be a portion of the permitting effort including evaluation of impacts of discharging into the Chukchi Sea and potential impacts to the Cape Krustenstern National Monument. The NPS told Teck that they are not in favor of a pipeline through the National Monument (current and prior administrations).
KVL IRA	28	Teck notes that potential benefits to implementing option C include likely improvements to long-term operations (particularly under the extended operations that would arise with the MLE project going to production) and the potential to offset some long-term costs associated with post-closure activities. While Teck notes previous cost estimates for the pipeline itself, it does not include any evaluation as to what sort of operational or closure costs may be offset by constructing the pipeline. DEC should require Teck to conduct this analysis as it would help inform Teck of additional benefits that may be realized by pursuing option C.	The comment is appreciated and will be recommended to Teck.

Commenter	Comment #	Comment	DEC Response
KVL IRA	29	Teck (2025) Table 1 (Pros and Cons of Main Water Management Options) needs revised. Specifically, the following elements should be removed or edited under option C: > 5-year timeline for permitting and construction. Permitting, particularly under the current State and federal administrations, can be completed in less than one year (e.g., Graphite One proposed mine site of approximately 1,200 acres is on the federal FAST41 dashboard and an Environmental Assessment is being produced with an expected Finding of No Significant Impact being made available in approximately one year) and no more than two years. • Teck's primary permit of concern is likely the Clean Water Act (CWA) Section 404 permit for the fill of wetlands and Waters of the U.S. (WOTUS). This corridor has been mapped for wetlands previously and any updated mapping needed (greater than five years old) could be accomplished via desktop. • This desktop analysis is also likely to find that many of the wetlands are non-jurisdictional under the CWA following the Supreme Court of the U.S. 2023 ruling in Sackett v. EPA and the 20 November 2025 proposed Waters of the U.S. Rule (2025 Rule; 90 FR 52498). • The anticipated pipeline construction footprint and the limited jurisdictional wetlands under the 2025 Rule will likely result in the pipeline project having only nominal impacts to WOTUS. As such, any NEPA review is not likely to rise above an Environmental Assessment and may be limited to a Categorical Exclusion. Neither of which should take more than one year to complete. • DEC must require Teck to provide realistic permitting and NEPA timelines in its proposed Compliance Schedule.	Recent experience with potential major permitting efforts at Red Dog indicates 3 years is not unreasonable as it took more than 3 years to permit the A&A Exploration Road. Jurisdictional wetlands impacts will only be a portion of the permitting effort including evaluation of impacts of discharging into the Chukchi Sea and potential impacts to the Cape Krustenstern National Monument. Currently, no specific compliance alternative has been selected or is proposed for implementation as part of this permitting action.

Commenter	Comment #	Comment	DEC Response
KVL IRA	30	Teck (2025) Table 1 (Pros and Cons of Main Water Management Options) needs revised. Specifically, the following elements should be removed or edited under option C: Legal uncertainties around acquiring NPS approvals for pipeline right-of-way (ROW) through Park. • The pipeline can be constructed within an embankment extension of the existing roadway requiring nominal permitting and limited footprint increase, and no changes to the existing ROW bounds. • Further, based on the federal Administration's support of mining, the Department of Interior is likely to support the project as it would further Teck's planned MLE project, Red Dog closure, and local community buy-in. • DEC should require a Phase 1, Year 1 milestone, for Teck to engage with NANA, NPS, and the Department of Interior on acquiring new ROW or modifying the existing ROW authorization to include a wastewater discharge pipeline. Any legal uncertainties should be addressed immediately, and details of those uncertainties and any resolutions or final determinations should be included in a summary report delivered to DEC and the Council at the end of Year 1.	In the permit's Appendix D, *Compliance Schedule Extension*, Teck is required to conduct and report on the following during Phase 1, Year 1: "ROW legal review, terrestrial and marine environmental baseline studies, pipeline engineering studies, permafrost geotechnical studies, cost/benefit studies, community outreach, and the initiation of dialogue with the Department of Interior on a pipeline ROW." The NPS told Teck that they are not in favor of a pipeline through the National Monument (current and prior administrations).

Commenter	Comment #	Comment	DEC Response
KVL IRA	31	Teck (2025) Table 1 (Pros and Cons of Main Water Management Options) needs revised. Specifically, the following elements should be removed or edited under option C: Potential actual or perceived caribou impacts. Caribou monitoring and analysis of recent historic area use can inform construction practices and timing, reducing impacts from pipeline construction. Constructing and burying the pipeline in the roadway embankment would not pose new challenges to caribou crossing the roadway. • Teck and the State of Alaska have spent decades and millions of dollars to better understand caribou behavior, use of the area, and migration. These studies have led to better project planning and mitigation efforts and pipeline construction can be reasonably foreseen to have limited impacts on caribou with proper mitigation measures in effect during construction. • Teck is currently constructing the MLE project, where it touts its capacity to minimize disturbance to caribou. Teck further publicly proclaims its commitment to minimizing caribou impacts with Red Dog Mine operations, including in public presentations at industry conferences (Johanna Salatas, Alaska Mining Association Conference, Anchorage, Alaska, 6 November 2025: Red Dog: A Legacy of Responsibility and Future Opportunity – Western Arctic Caribou, Red Dog Operations, and the Biodiversity Mitigation Hierarchy). There is no reason to suspect pipeline construction would not occur similarly. • DEC must require Teck address this serious concern (i.e., impacts to caribou) in a manner consistent with how Teck treats RDO (including year-round use of the DMTS) and construction at the MLE project. • The Council commends the use and effectiveness of the Community Reporter program. Applying this program to pipeline construction monitoring would mitigate many of the impacts to caribou from the activity.	The comment is appreciated and will be recommended to Teck.
KVL IRA	first 33	Teck (2025) Table 1 (Pros and Cons of Main Water Management Options) needs revised. Specifically, the following elements should be removed or edited under option C: Potential pushback from the Community of Interest (i.e., Kivalina). Kivalina has been pushing Teck to construct this pipeline for almost 20 years; inclusion of this statement is insulting and suggests that neither Teck nor DEC values the consistent comments made by the community. DEC should require Teck to remove this statement from their proposed Compliance Schedule.	DEC recognizes and acknowledges the Council's position on this issue. Kivalina is not the only community of interest that Teck and the State must consider. For example, the Community of Point Hope previously provided feedback during prior ocean discharge investigations indicating that they oppose a marine, mine drainage, wastewater discharge at the Red Dog Port.

Commenter	Comment #	Comment	DEC Response
KVL IRA	second 33	Teck (2025) provides an unrealistic and overly prolonged timeline in Section Compliance Schedule 10-Year Term. For option C: Phase 1, Year 1: "ROW legal review, terrestrial and marine environmental baseline studies, pipeline engineering studies, permafrost geotechnical studies, cost/benefit studies, community outreach, and the initiation of dialogue with the Department of Interior on a pipeline ROW." • After nearly 20 years of pipeline study, the Council questions Teck's commitment to advancing an objectively informed analysis of pipeline feasibility. All of the material cited in Teck (2025) must already exist or they have been misleading both regulators and Kivalina for more than a decade. • Before DEC accepts the proposed Compliance Schedule Phase 1, DEC must demand Teck provide it with the status of the existing studies cited and inform the department as to why it would take an additional year to "develop a more detailed list of studies foundational to advancing [option C] …"	Permitting timeframes can and do range widely, depending upon a host of factors, and estimating a future permitting timeline is a very subjective and imprecise exercise. DEC recognizes and acknowledges the Council's position on this issue.
KVL IRA	34	Teck (2025) provides an unrealistic and overly prolonged timeline in Section Compliance Schedule 10-Year Term. For option C: Phase 2, Years 2-3: "…at the end of Year 4, Teck will be able to advise DEC whether it intends to pursue option C." • After almost 20 years of study, why does Teck need four additional years to reach a conclusion on the feasibility of constructing a discharge pipeline to the Chukchi Sea? Baseline environmental studies have been conducted for decades, multiple rounds of engineering studies have been completed, and the community of interest (Kivalina) has been requesting a Chukchi Sea discharge pipeline for 20 years. • If DEC accepts Teck's proposed Compliance Schedule Phase 2, DEC is readily and publicly providing Teck with a pass to avoid addressing the Council's frequently expressed concerns with the wastewater discharged to Red Dog Creek. Further, without requiring specific details on activity conducted to date, detailed plans for advancing the options, and a strict milestone schedule, DEC is failing its obligation as the regulator assigned the responsibility to objectively evaluate and adjudicate permit applications but also failing to protect the Alaska environment and people of the region.	DEC recognizes and acknowledges the Council's position on this issue. In the permit's Appendix D, *Compliance Schedule Extension*, Teck must submit formal reports at the end of Phases 2, 3, and mid-Phase 4. This includes reporting whether a pipeline will be pursued at the end of Phase 2. As stated, the reports will document decisions, schedule milestones, and inform DEC about engagement in advance of final decisions. Some baseline investigations have occurred, but they are more than 10-years old and by no means extensive. Additional, current, baseline information is needed for a defensible permitting action for a marine discharge point. Permitting timeframes can and do range widely, depending upon a host of factors, and estimating a future permitting timeline is a very subjective and imprecise exercise.

Commenter	Comment #	Comment	DEC Response
KVL IRA	35	Teck (2025) provides an unrealistic and overly prolonged timeline in Section Compliance Schedule 10-Year Term. For option C: Phase 3, Years 4-5. Teck would finalize any of the early studies and develop early permit applications for any option(s) advanced in Phase 2. "For option C, the pipeline option, Teck would finalize any of the early studies, develop early permit applications (404, NPS-ROW, APDES, NWAB, other), continue environmental baseline monitoring studies, finalize any geotechnical studies, continue community outreach, and incorporating environmental and geotechnical information into a pipeline design update." • Teck does not require this much time to complete these steps and including this timeline in their proposed compliance schedule strongly indicates they have already dismissed this requested mitigation feature. • DEC should require Teck to provide a detailed explanation of why it would take five years to reach this point for a project that has been studied for nearly 20 years. Teck has been collecting much of this data in the region and along the DMTS route for more than 20 years and claiming Phase 3 alone would require two years shows Teck's lack of interest in option C and Teck's rejection to objectively evaluate this option. If Teck viewed this as an overall revenue-generating prospect, it could develop a strategy to move the project forward to construction within two years.	DEC recognizes and acknowledges the Council's position on this issue. Permitting timeframes can and do range widely, depending upon a host of factors, and estimating a future permitting timeline is a very subjective and imprecise exercise.
KVL IRA	36	Teck (2025) provides an unrealistic and overly prolonged timeline in Section Compliance Schedule 10-Year Term. For option C: Phase 4, Years 6-10. Teck (2025) indicates this time will be required to complete the NEPA process, something the Red Dog MLE project intends to complete in two years. • This is disingenuous at best, and wholly misleading at worst. DEC could consult with the Alaska Department of Natural Resources Office of Project Management and Permitting (OPMP) if DEC needs assistance understanding the NEPA process. • Teck would have the assistance of OPMP readily available should Teck desire additional help in efficiently permitting a discharge pipeline.	In the permit's Appendix D, *Compliance Schedule Extension*, Teck must submit final permitting packages at the end of Phase 3 and complete permitting, procurement, construction, and commissioning by the end of Phase 4. The 4-year timeframe for Phase 4 is reasonable and prudent given the magnitude and potential complexity of a 52-mile pipeline in the Arctic, which is expected to take multiple shipping seasons to procure materials and construct. Permitting timeframes can and do range widely, depending upon a host of factors, and estimating a future permitting timeline is a very subjective and imprecise exercise.

Commenter	Comment #	Comment	DEC Response
KVL IRA	37	Teck (2025) provides an unrealistic and overly prolonged timeline in Section Compliance Schedule 10-Year Term. For option C: • DEC should not allow Teck to slow walk this analysis, and a firm timeline with milestone deliverables should be required by DEC's Compliance Schedule. • DEC should further require Teck to provide all relevant decision-supporting documentation on the three options to DEC and the Council as each Phase concludes. Teck should provide summary progress reports at the end of each phase that describe what was done, what was learned, and what is the next planned action.	In the permit's Appendix D, *Compliance Schedule Extension*, Teck is required to submit formal reports at the end of Phases 2, 3, and mid-Phase 4. The reports inform DEC in advance of final decisions, document milestones, and include DEC engagement in final decisions. Requiring progress reports to DEC, ensures DEC engagement in determining solutions throughout the 10-year term of the compliance schedule. Permitting timeframes can and do range widely, depending upon a host of factors, and estimating a future permitting timeline is a very subjective and imprecise exercise.
KVL IRA	38	Teck's APDES Permit No. AK0038652 was modified on 19 May 2021 to include a technical evaluation of Pipeline to Chukchi Sea, which was due at the end of 2022. • DEC, please describe how the 2021 requirement is different from the new requirements included under option C and how DEC will enforce compliance of the proposed permit reissuance. • DEC, must provide the Council with a copy of the technical evaluation Teck delivered to DEC in 2022 and any future pipeline evaluations completed by Teck.	DEC understands many, if not all, of the reports were provided by Teck to the Kivalina IRA Council through their Community and Government Relations Department. Nonetheless, that information is publicly available by filing a request for information.
KVL IRA	39	Teck (2025), Table 1 (Pros and Cons of Main Water Management Options), states (under Con) that "Potential pushback from COI [Communities of Interest]." • Although the Council has expressed this on many previous occasions, it appears to have gone unnoticed: **Kivalina, the Community of Interest, expressly supports the construction of a treated wastewater discharge pipeline to the Chukchi Sea.** • If Teck will commit to constructing a Chukchi Sea discharge pipeline, the Council will support Teck's pursuit of all pipeline permits and authorizations and assist those pursuits where possible. • Note: Teck also includes "Strong support from COI" in the Pro column, suggesting they are unsure of what the community and Council's positions are.	The Community of Point Hope previously provided feedback during prior ocean discharge investigations indicating that they oppose a marine, mine drainage, wastewater discharge at the Red Dog Port. The NPS told Teck that they are not in favor of a pipeline through the National Monument (current and prior administrations).

Commenter	Comment #	Comment	DEC Response
KVL IRA	40	Teck frequently dismisses option C due to the projected costs. The estimated costs, while considerable, are not insurmountable for an operation as large as Red Dog and for an operator as substantial as Teck. In fact, Teck is in the process of undergoing a merger with Anglo American (https://www.miningnewsnorth.com/story/2025/09/12/news/anglo-teck-to-merge-into-53b-coppergiant/9262.html), which will have a combined estimated market value of $53 billion. Further, the Red Dog MLE could extend mine operations for an additional decade or longer and the pipeline capital costs would benefit the extended project. Finally, mine closure may necessitate such a pipeline and Teck's desire to dismiss it based on cost may be shortsighted.	DEC recognizes and acknowledges the Council's position on this issue.
KVL IRA	41	Option D would be adopted late in the compliance schedule when it became clear that integrating some, or all, of options A, B, and C were advantageous. Teck notes that if a pipeline is constructed as the primary means for disposing treated mine wastewater, there may be benefits for continuing to discharge some water to outfall 001 (so long as it meets new TDS permit limits), including benefits to the aquatic ecosystem as well as providing a degree of operational flexibility. The Council can support Teck maintaining the flexibility to discharge treated wastewater through outfall 001 under option D, so long as the primary method of discharge is made via a pipeline to the Chukchi Sea, discharges to Red Dog Creek are only made on an as-needed basis, and discharges to Red Dog Creek do not violate Alaska water quality standards.	DEC recognizes and acknowledges the Council's position on this issue.
KVL IRA	42	What are the penalties for Teck if none of the options Teck has offered proves to be successful? The Council believes that the only appropriate remedy and penalty after 10 years would be the immediate cessation of operations. Operations would not be allowed to continue until all treated wastewater could be discharged in a way that complies with State water quality standards.	Ceasing operations would not end the inflow of precipitation water to the facility's Mine Water System, which still requires treatment and discharge.

Commenter	Comment #	Comment	DEC Response
KVL IRA	43	Teck (2025) states: "The 10-year term is driven by the steps reasonably and likely required to identify, design, permit, and construct the final solution. While it may be possible to reach the goal in less time, the Compliance Schedule includes enough detail to support the position that it could take the full 10 years." • As noted in previous comments, the timeframe proposed by Teck is unreasonably slow and solutions (e.g., implementing option C) can be provided far sooner than Teck's proposed 10-year Compliance Schedule. • Teck states they have provided enough detail to support their position, but detail is absolutely lacking in their proposal. Teck's (2025) Phasing schedule describes ten years of activity over four phases for four options is less than two pages long. Teck's failure to include a detailed proposed phase schedule is a disservice to both DEC and the public. Teck is a global leader in developing complex, dynamic projects and project schedules and logistics plans to execute them in remote corners across the globe. The lack of a detailed milestone schedule is indicative of an intent to delay addressing this critical Council concern. • DEC cannot develop a milestone schedule for compliance using the Teck (2025) proposed schedule that can truly hold Teck accountable to meet their proposed commitments without additional detail from Teck.	The Year 1 list is more detailed, and each subsequent year depends on the findings and conclusions of prior years. DEC recognizes and acknowledges the Council's position on this issue.
KVL IRA	44	DEC should outright reject including option B in the Compliance Schedule for the Red Dog Mine APDES Permit reissuance. • It is Teck's best interest to reduce non-contact water inflows—it reduces Teck's water management and water treatment burden, and many of the measures will either be required for mine closure or desired to limit long-term exposure and costs. • Option B is comprised of best operating and management practices and these efforts should be implemented as part of the Red Dog Mine's obligation to operate in an environmentally protective manner. For example, diversion ditches should be installed and regularly maintained across the site's perimeter to reduce water contamination.	Teck has constructed and maintained many "clean water diversion" structures across the perimeter of the mine, the largest being the upper Middle Fork Red Dog Creek diversion culvert system which allows bypass of upstream, non-contact waters through and elevated above the active mining area.

Commenter	Comment #	Comment	DEC Response
KVL IRA	45	The Council would like DEC to reduce the Compliance Schedule timeline and require specific milestones and deliverable with well-defined due dates. The Council finds it is appropriate and recommends DEC insert a deadline and milestone schedule in the Compliance Schedule for options A and B that if not met, trigger a requirement for Teck to pursue Option C with a final deadline for the pipeline to be in operation. Should Teck not meet those requirements, firm penalties should be instituted; penalties should include ceasing all operations until the requirements can be met.	In the permit's Appendix D, *Compliance Schedule Extension*, Teck must submit formal reports at the end of Phases 2, 3, and mid-Phase 4. Submission of formal reports along with annual progress reports to DEC throughout the compliance schedule's 10-year term serves the following purposes. It ensures documentation of scheduled milestones and engages DEC in decision making. The APDES permit compliance schedule provides legally binding, time-limited, and interim requirements for meeting effluent limits (actual in-stream WQS in this case) before or by end of the compliance schedule's 10-year effective term (max APDES permit term is/remains 5-years).
KVL IRA	46	Overall, Teck's stated preference for option A and option B seems to shrug off local community concerns and suggest Teck will continue to study the issue for 10 years but offers zero commitment that anything will be done beyond study. DEC should outright reject options A and B until Teck, at a minimum, sets benchmark commitments to implementing all or some of its suggested improvements. In the very least, should there be no or only limited facility changes in the first four years, DEC should require Teck to construct a pipeline to the Chukchi Sea immediately. Teck in fact notes that their preferred option is based on "lower costs than the pipeline" while simultaneously admitting the unknown, if the other options are reliable for the long term.	In the permit's Appendix D, *Compliance Schedule Extension*, Teck is required to investigate option A, B, C or combination thereof. As stated in Appendix D, it is possible a single, combination of 2, or all 3 options may be preferable. The APDES permit compliance schedule will provide legally binding, time-limited, and interim requirements for meeting effluent limits (actual in-stream WQSs in this case) before or by end of the compliance schedule's 10-year effective term (max APDES permit term is/remains 5-years).
USFWS	47	If there is a future federal nexus associated with the project (e.g., Section 404 CWA permit), and if ESA-listed species or designated critical habitat may be impacted by the project, consultation under section 7 of the ESA would be required (see 50 CFR 402).	A federal nexus is not associated with the permitting action currently under consideration.
USFWS	48	We recommend operators review and implement the Service's Best Management Practices to Minimize Impacts to Polar Bears (https://www.fws.gov/media/polar-bearbmps) to minimize the risk of encounters with polar bears and maximize human and animal safety if an encounter should occur.	The comment is appreciated and will be recommended to Teck. Correct URL: <<https://www.fws.gov/media/polar-bear-bmps>>

Commenter	Comment #	Comment	DEC Response
USFWS	49	If the pipeline alternative is pursued, additional coordination with the Service's Marine Mammals Management (MMM) office may be necessary to minimize potential impacts of pipeline construction and operation on polar bears or walruses. ADEC may contact the MMM office with any questions regarding these species and MMPA compliance at FW7_AK_Marine_Mammals@fws.gov.	Currently, no specific compliance alternative has been selected or is proposed for implementation as part of this permitting action.
USFWS	50	If continued consideration is given to further altering TDS limits through regulatory changes, we recommend studies be undertaken that consider additional fish species known to occur in systems downstream of the mine, including all five species of Pacific salmon, whitefish, and sheefish, and also consider multiple factors, including interactions involving changing temperature, pH, and dissolved oxygen regimes, and the presence of other potential contaminants as part of the proposed compliance schedule.	All regulatory changes will be scientifically designed and documented, as being protective of all existing and beneficial, and will follow prescriptive public processes prior to finalization.
USFWS	51	We recommend that future monitoring and adaptive management address risks to eagles, and other raptors, from contaminant bioaccumulation and disturbance during breeding.	The comment is appreciated and will be recommended to Teck.
USFWS	52	We recommend potential risks to migratory birds be analyzed in the compliance schedule and selection process, including targeted monitoring of bird use and exposure, assessment of bioaccumulation in the food web, habitat degradation, and the development of mitigation measures as appropriate.	The comment is appreciated and will be recommended to Teck.
USFWS	53	We recommend that DEC and the applicant consider cumulative downstream impacts on fish and subsistence resources when evaluating compliance schedule extensions. These standards were originally established to protect aquatic life and subsistence uses.	The comment is appreciated and will be recommended to Teck.
USFWS	54	We encourage incorporating recent and forthcoming subsistence data (e.g., from the ADF&G comprehensive subsistence survey conducted in 2025) into the decision-making process to ensure local resource use and needs are fully understood.	The comment is appreciated and will be recommended to Teck.
USFWS	55	We suggest evaluating whether extended elevated TDS could interact with other environmental factors (e.g., natural seeps) in ways that affect downriver fish health and availability for subsistence needs. This analysis would help identify mitigation measures or adaptive management strategies if adverse trends are detected.	The comment is appreciated and will be recommended to Teck.

Commenter	Comment #	Comment	DEC Response
USFWS	56	[we recommend that DEC:] Require an assessment of the combined impacts from TDS, metals, and other pollutants on water quality and biota, not just in the immediate receiving waters, but extending downstream to the Wulik River, Kivalina lagoon, and the Chukchi Sea.	The comment is appreciated and will be recommended to Teck.
USFWS	57	[we recommend that DEC:] Evaluate pollutant interactions with each other, with changing weather and precipitation, and with other land uses in the region.	The comment is appreciated and will be recommended to Teck.
USFWS	58	[we recommend that DEC:] Conduct scenario-based evaluations of future water quality and ecological conditions under a range of possible situations, including changes in precipitation, permafrost thaw, operational changes at the mine, and potential mine closure before a long-term water management solution is in place.	The comment is appreciated and will be recommended to Teck.
USFWS	59	[we recommend that DEC:] Require an assessment of the potential interactions between pollutants and other environmental stressors and their effects on water quality, biota, and ecosystems over time.	The comment is appreciated and will be recommended to Teck.
USFWS	60	[recommend that...the schedule should:] Identify clear thresholds for parameters such as TDS, metals, or biological indicators that, if exceeded, would prompt a re-evaluation of the schedule and require additional mitigation measures.	The comment is appreciated and will be recommended to Teck.
USFWS	61	[recommend that...the schedule should:] Define robust annual milestones that go beyond simple reporting and demonstrate measurable progress toward a long-term solution, with clear accountability for any delays or setbacks.	In the permit's Appendix D, *Compliance Schedule Extension,* it requires that Teck submit formal reports at the end of Phases 2, 3, and mid-Phase 4. The reports inform DEC in advance of final decisions, document milestones, and include DEC engagement in final decisions. Teck progress reports serve to ensure DEC engagement throughout the 10-year term of the compliance schedule.

Commenter	Comment #	Comment	DEC Response
USFWS	62	[recommend that...the schedule should:] Include a mid-term review (e.g., at 5 years) that evaluates progress towards milestones and allows for acceleration or revision of the schedule based on progress, new scientific information, or changing environmental conditions.	In the permit's Appendix D, *Compliance Schedule Extension*, it requires that Teck submit formal reports at the end of Phases 2, 3, and mid-Phase 4. As stated in the Appendix D, the reports inform DEC in advance of final decisions, document milestones, and include DEC engagement in final decisions.
USFWS	63	[recommend that...the schedule should:] Ensure monitoring and data transparency by: > Making all water quality and biological monitoring data publicly available, consistent with APDES permit reporting requirements > Notifying the Service of any exceedances or adverse trends > Expanding biomonitoring to include sentinel species (e.g., raptors, migratory birds, key fish species, aquatic invertebrates) and to assess bioaccumulation in the food web.	Prior to mining, Red Dog Mine began annual biomonitoring in 1979. Mining began in 1989. During the span from 1979 to 1997, the biomonitoring program was altered and optimized. Since 1998, the biomonitoring plan has been largely unchanged as approved and implemented by Alaska Department of Fish and Game (ADF&G). In its current form, the biomonitoring plan assesses the abundance and diversity of aquatic life (periphyton, benthic invertebrates, and fish) in drainages upstream and downstream of the mine. Nearly half a century of biomonitoring data provides a vast library of data and understanding of trends. The ADF&G website provides decades of annual reports readily available to all.
USFWS	64	[recommend that...the schedule should:] Plan for closure and contingency by: > Requiring a plan for water management, dam safety, and resource protection if the mine closes before a long-term solution is implemented > Establishing a post-closure long-term monitoring and mitigation plan, with provisions for additional actions if water quality or ecological indicators show adverse trends. > Including emergency response plans for spills, tailings dam incidents, wildlife rescue protocols, or other emergencies that could rapidly affect habitat or food webs. > Ensuring that wildlife rescue and rehabilitation protocols are in place and that staff are trained to respond to mortality events involving fish, birds, mammals, or other trust resources.	This permit is a renewal of a permit that was initially effective in 1985, more than 40 years ago, and administers Section 402 of the CWA for the discharge of treated wastewater to surface waters. However, concerns expressed in this comment have long since been addressed by other permits, approvals, or agencies.

Commenter	Comment #	Comment	DEC Response
USFWS	65	[recommend that...the schedule should:] Implementing comprehensive fish, wildlife, and habitat monitoring, including: > Surveys for critical life stages, nesting, spawning, foraging, and aggregation sites within and adjacent to mine footprint and downstream habitats. > Documentation of wildlife use of mine-influenced water bodies and infrastructure.	The comment is appreciated and will be recommended to Teck.
USFWS	66	[recommend that...the schedule should:] Implementing habitat enhancement or restoration projects (e.g., revegetation, wetland creation, buffer zones) to offset habitat loss or degradation from mine operations and water management infrastructure.	The comment is appreciated and will be recommended to Teck.
USFWS	67	[the process should:] Include criteria-based alternatives analysis with clearly defined decision criteria (e.g., cost, technical feasibility, ecological risk, community preference, regulatory certainty).	The comment is appreciated and will be recommended to Teck.
USFWS	68	[the process should:] Provide opportunities for Service and stakeholder review and comment.	Regarding public process, DEC will and must adhere to all regulatory requirements as found in 18 AAC 15 and 18 AAC 83.
USFWS	69	[the process should:] Ensure full environmental review, especially for the pipeline option.	Regarding public process, DEC must and will adhere to all regulatory requirements as found in 18 AAC 15 and 18 AAC 83.