

Reviewer Comments and Proponent Responses

Project: Liard South Project
Board: Mackenzie Valley Land and Water Board
Organization: Paramount Resources Ltd.

No.	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response	Board Decision
Acho Dene Koe First Nation (ADKFN) - Scott Mackay					
1	Section 2.1 Phase 2 Environmental Site Assessment (pg 4)	<p>The Closure and Reclamation Plan note “that P2 ESAs have been completed at all locations expect I-02 which will be assessed in October 2021. A supplementary ESA is planned for F-36 at the same time.”</p> <p>Given the amount of time that has passed since submission of the Closure and Reclamation Plan, this statement is no longer up to date.</p>	<p>Can Paramount provide confirmation on whether Phase 2 ESAs were completed at site I-02 and F-36 in October 2021, and if so, when the results from these Phase 2 ESAs will be available.</p> <p>It is recommended that once available, Phase 2 ESA for site I-02 and F-36, be posted to the MVLWB registry for dissemination.</p>	<p>I-02 was completed October, 2021. A supplemental Phase II ESA drilling program (Phase II ESA) was recommended as the Drilling Waste Disposal Area (DWDA) was unable to be accessed as ground conditions were too wet for drilling. A Phase II ESA was conducted in January 2022. A report will be provided to Paramount Resources Limited within 60-90 days after the laboratory analysis have been received.</p> <p>F-36 supplemental Phase II ESA was completed in October, 2021. The report for the supplemental Phase II ESA will be provided to Paramount Resources Limited by February 15, 2022.</p>	<p>The Board included this item under the list of directives for Paramount to address in the Plans as this item may have implications for the extent of remediation activities that may be undertaken.</p>
2	Section 2.6 Reclamation (pg. 4)	<p>Revegetation of the sites will be conducted as part of reclamation efforts. It is important for the re-establishment of local vegetation that only high quality native seed be used to support revegetation.</p>	<p>If seed is to be applied to support revegetation efforts, seed should only be sourced from a reliable vendor able to ensure seedmix contains only native species.</p> <p>Where possible, maintain as much natural revegetation as practical in closure and reclamation activities.</p>	<p>Natural encroachment is Paramount's preferred method of revegetation. If seeding is required an appropriate seed mix will be used.</p>	<p>The Board consider including this item under the list of directives for Paramount to address in the Plan as it could have implications for revegetation activities to be undertaken.</p>

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3	Section 2.6 Reclamation (pg. 4)	There is a lack of comprehensive information pertinent to revegetation plans for the sites including specific measures to address invasive species.	We recommend that additional information be provided on specific approaches to be employed to ensure that revegetation be deterministic result in a restoration of ecosystem services and function.	Natural encroachment is Paramount's preferred method of revegetation. Paramount has used Northern contractors during reclamation and remediation activities to reduce risk with invasive species being brought into the project area.	The Board included this item under the list of potential directives for Paramount to address in the Plan as this item could potentially affect revegetation activities to be undertaken.
4	Section 7.0 Financial Security (pg. 6)	Paramount notes: "An updated Security Estimate will be provided under a separate cover letter based on the work remaining at the Site prior to the end of 2020." In review of the MVLWB registry for permit MV2021A0006, we were unable to find the letter outlining an updated security estimate for this project.	We recommend that a link be provided to the revised security estimate. If this estimate is not yet available, please provide a timeline for when the estimate may be made available.	Paramount is undertaking closure work this winter. Paramount would suggest it would be more appropriate to provide an updated security estimate at the end of this winter. Paramount will provide an updated security estimate by February 28, 2022.	The Board include this item under Table 1 list of directives for Paramount to address in the Plan.
5	Appendix A: North Shore Environmental Consultants Para et al Fort Liard F-36 Phase 2 ESA May 2017 Section 6 – Summary and Conclusions (pg 284)	The Phase 1 ESA for site F-36 identifies records of a spill which occurred near site F-36 on the access road during the movement of equipment. The Phase 2 ESA for site F-36 does not include this spill within its scope as the location of the spill is not specifically known.	All reasonable efforts should be made to identify the location of the access road spill, and relevant soil testing be performed to understand whether additional remediation efforts are required.	The previously provided North Shore Phase II ESA Report identified the spill was cleaned up. A Site Inspection will be completed in Q2 or Q3 of 2022 or when snow is not on the ground to determine if location of the spill can be identified. If identified, soil samples will be collected for laboratory analysis.	The Board included this item under Table 1 list of directives for Paramount to address in the Plan.

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6	General	<p>Sites A-01 (Zinc) F-36 (Various Metals; Hydrocarbons), I-46 (Arsenic), N-01 (Arsenic), O-35 (Arsenic; Hydrocarbons), all have been identified to have soil contaminants in excess of jurisdictional guidelines. Paramount identifies that these contaminants do not pose any significant risk as they are generally found below the root level and are unlikely to be mobilized in the soil given the soil characteristics.</p>	<p>Generally, we agree with this assessment of risk, however, as metals and hydrocarbons can have detrimental impacts on wildlife and the environment, we recommend that as part of follow-up monitoring, chemical analysis of above-ground vegetation be conducted for contaminants identified in excess in the Phase 2 ESAs, to ensure that contaminants are not entering the foodchain.</p>	<p>On behalf of Paramount SynergyAspen completed a Site Specific Risk Evaluation at these Sites, which SynergyAspen calls Desktop Remediation (TM). Desktop Remediation (TM) looks at the environmental risk triangle (contaminant, pathway and receptors). Much like how a "fire triangle" works, all three elements of the risk triangle must be present for an environmental risk to exist. In SynergyAspen's opinion, remaining concentrations of metals and/or hydrocarbon in the ground do not pose a risk to human health or the environmental (surface receptors plants, animals, and soil invertebrates), will continue to natural attenuate (decrease) with time. The remaining contaminant concentration in soil are present below rooting depth is not available to soil invertebrates and plant roots. As such, uptake of any remaining soil contamination into plants would not occur at levels that would do any harm to the wildlife and the environment. It is SynergyAspen's opinion that sampling of above ground vegetation for the contaminants of concern is not needed.</p>	
7	General	<p>Further to Paramount's engagement with Acho Dene Koe First Nation, in and around 1999, engagement and consultations between Paramount and its predecessors and Acho Dene Koe First Nation regarding Development and Benefits</p>	<p>The Supreme Court of the Northwest Territories in its decision dated May 1, 2020, has determined that Paramount's Community Investment Plan governing the Liard South area is a contractual arrangement that can only be enforced by</p>	<p>This comment is for the MVLWB.</p>	<p>The Board notes that matters involving contractual arrangement among relevant parties associated with the project are generally outside of the Board's jurisdiction. As such, the parties are encouraged to work cooperatively to address any outstanding matters related to contractual arrangements.</p>

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		<p>Plans in the Fort Liard area resulted in Community Investment Plans (CIPs) which apply to the lands that are the subject of Paramount's proposed Mackenzie Valley Land and Water Board applications. For all ongoing activities in the Liard South project area, Paramount must comply with its obligations under the applicable CIPs, including advanced consultation and engagement, annual meetings, work bid preferences, community investment payments and harvester compensation. Specifically, the Paramount CIP dated December 14, 1999 applies to Liard South. Pursuant to that agreement and the related benefits plans filed with the Northern Oil and Gas Directorate, Paramount's obligations include the following:</p> <p>-Payment of outstanding annual Community Investment and Outreach amounts, which have not been forthcoming since approximately 2007, in the</p>	<p>the parties. As such this Board, as part of its approvals process and in keeping with the honour of the Crown, cannot be seen to wilfully frustrate or interfere with those contractual arrangements between Paramount Resources Ltd. and Acho Dene Koe First Nation.</p>		

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		<p>amount of \$100,000 per year plus interest.</p> <p>-Honour the Acho Dene Koe First Nation bid preference of 12% for any approved work being carried out in the Liard South project area; and</p> <p>-Use reasonable efforts to purchase goods and services from Acho Dene Koe First Nation</p>			
MVLWB - Sean Joseph					
1	Scope of CRP	<p>The scope of the Closure and Reclamation Plan is not clear. The cover page refers to Liard South, whose application scope includes the monitoring, abandonment and reclamation of wellsites F-36 and I-02. Previous authorizations for Liard South included wellsites N-01, O-35, I-02, I-46, F36, and A-01. The Purpose and Scope of the CRP states: "This Closure and Reclamation Plan for the Liard East field includes A-01, F-36, I-02, I-46, N-01 and O-35." Then, the body of the CRP refers only to wellsites F-36 and I-02.</p>	<p>Clarify the status of all well-sites listed and the scope of the CRP.</p>	<p>The purpose and scope lists the sites covered in this plan; A-01, F-36, I-02, I-46, N-01 and O-35.</p>	<p>The Board include this item under the list of directives for Paramount to address in the Plan.</p>

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2	CRP Accuracy	Section 2.1 of the CRP states that well-site I-02 will be assessed (Phase II ESA) and well-site F-36 Phase II ESA will be supplemented on October 21, 2021. This date has passed. These Reports should be available to inform the CRP.	Provide updated Phase II ESA Reports.	I-02 was completed October, 2021. A supplemental Phase II ESA drilling program (Phase II ESA) was recommended as the Drilling Waste Disposal Area (DWDA) was unable to be accessed as ground conditions were too wet for drilling. A Phase II ESA was conducted in January 2022. A report will be provided to Paramount Resources Limited within 60-90 days after the laboratory analysis have been received. F-36 supplemental Phase II ESA was completed in October, 2021. The report for the supplemental Phase II ESA will be provided to Paramount Resources Limited by February 15, 2022.	The Board included this item under the list of directives for Paramount to address in the Plan as it could have implications for the extent of remediation work that may be required
3	CRP Accuracy	Section 7.0 states that "An updated Security Estimate will be provided under a separate cover letter based on the work remaining at the Site prior to the end of 2020."	Update the status of this security estimate.	Paramount is undertaking closure work this winter. Paramount would suggest it would be more appropriate to provide an updated security estimate at the end of this winter. Paramount will provide an updated security estimate by February 28, 2022.	The Board included this item under any potential list of directives for Paramount to address in the Plan as the financial security posted has implications on liabilities.
4	Soil Remediation	The CRP does not include any plans for soil remediation. Board staff note that the existing Phase I ESA for wellsite A-01 notes staining near the wellheads and recommends further assessment. The Phase II ESA for wellsite F-36 also notes 5 recorded spills, identified several soil parameters that did not meet guidelines, and notes that these areas have	Provide additional information on plans to remediate or remove contaminated soils, including closure criteria for any impacted soils and/or clear justification and rationale for not proposing such activities prior to achieving closure based on the results and recommendations provided in the ESAs.	A-01: Based on the North Shore Environmental Consultants Inc. Phase 1 ESA (May, 2017) outcome a North Shore Environmental Consultants Inc. Phase 2 ESA (May, 2017) was completed in the well centre and the potential drilling waste disposal area was investigated. SynergyAspen Environmental completed a Desktop Remediation Report (July, 2021) where pathways were eliminated from applied guidelines: Environmental Guideline for Contaminated Site Remediation (GNWT-ENR, 2003) and CCME Soil Quality	The Board include this item list of directives for Paramount to address in the Plan.

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		not been fully delineated and recommended further assessments of drilling waste, well center, access road spill location, and flair pit areas.		<p>Guidelines (CCME, 2018). The report concluded that results/exceedances were below the applicable guidelines and no further environmental work was required.</p> <p>F-36: A supplemental ESA was completed in October 2021. The Supplemental Site Investigation Report Completed by SynergyAspen Environmental Inc. will be provided to Paramount Resources Limited by February 15, 2022. Remediation excavations are planned near the well bore area and a report will be provided to by the end of Q1, 2022.</p>	
5	Closure Criteria	Section 2.6 of the CRP identifies two main reclamation activities: earthworks and revegetation. This section provides some generic, qualitative statements of success. Quantitative measurements demonstrating successful reclamation for these particular sites can and should also be provided. For example, Paramount could provide more information on the successful species assemblages and percent coverage that it would deem acceptable in these locations. Board staff note that security will likely only be returned upon the	<p>1) Refer to the Board's Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories. The objectives-based approach for identifying closure activities, goals, objectives and criteria can and should be applied to any CRP being submitted to the Board for approval.</p> <p>2) Paramount to provide the site-specific details informing closure criteria for revegetation. This should include a discussion on the appropriate species compositions and percentage coverage that</p>	The closure goals and process are described within the C&R. Measurable criteria for vegetation establishment will include the absence of noxious weeds and 70% vegetation cover of desirable species. The Post-Closure and Reclamation Monitoring and Maintenance Plan will provide additional details on the appropriate species compositions.	The Board include this item under the list of directives for Paramount to address in the Plan as Specific details need to be provided for closure goal, objectives, and criteria to confirm whether relevant outcomes are achieved.

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		demonstration of successful remediation goals and criteria.	Paramount would consider a success based on baseline conditions and/or surrounding areas.		
6	Site-Specific Remediation Guidelines	Section 2.2 states that "SynergyAspen Environmental (SynergyAspen) has reviewed the existing assessment information for all sites, except I-02 and has developed SSRGs for all sites. These reports are attached in Appendix C." There is no Appendix C identified in the Table of Contents or attached to the CRP.	What, if any, site specific guidelines are Paramount proposing to apply to its remediation goals for Liard South? How were they calculated, where will they apply, and why are they appropriate?	The guidelines used are a combination of Alberta tier 1 soil and groundwater remediation guidelines (AEP, 2019), Alberta Tier 2 (AEP, 2019), Environmental Guideline for Contaminated Site Remediation (GNWT-ENR, 2003), CCME Soil Quality Guidelines (CCME, 2018), Subsoil Petroleum Hydrocarbon Guidelines for Remote Forested Sites in the Green Area (ESRD, 2014) and Assessing Drilling Waste Disposal Areas: Compliance Options for Reclamation Certification (AER, 2014). Using these documents, applicable guidelines were established and applied at each site. Further details are presented in the previously provided and upcoming reports.	The Board include this item under list of directives for Paramount to address in the Plan as details required for this item could potentially affect the extent of closure and reclamation activities associated with the project.
7	Monitoring	Paramount is proposing 3 to 5 years of monitoring site conditions following reclamation activities.	Provide rationale for the proposed timelines.	The proposed timelines are based on experience with similar projects. The main goal of the monitoring is to ensure the revegetation is on an appropriate trajectory. If early monitoring shows additional monitoring is required, it will continue.	The Board include this Item under any potential list of directives for Paramount to address in the Plan. The period allocated for monitoring could have an impact site activity.
8	Reporting Requirements	Board staff note that Licence MV2021L1-0006 requires the following plans and reporting: a Post-Closure and Reclamation Monitoring and Maintenance Plan, Performance Assessment Reports.	Provide discussion on Paramount's intentions to provide these plans and reports in relation to the proposed monitoring identified in Section 5 and 8.	Paramount intends to provide the plans and reports required under Licence MV2021L1-0006. The Post-Closure and Reclamation Monitoring and Maintenance Plan will be submitted by 31-Dec-2022 and the Performance Assessment Reports will be provided annually starting in 2023.	The Board included this item under the list of directives for Paramount to address in the Plan as none of the documents requested has been submitted to date.

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9	CRP Layout	The layout of the plan is such that much of the relevant requirements under Schedule 3 of Licence MV2021L1-0006 are dispersed throughout documents included in Appendix B instead of the main body of the plan.	The plan should be revised to ensure that all relevant requirements under Schedule 3 of Licence MV2021L1-0006 are included in the body of the Plan.	The relevant information is best left within the reports so that the information is provided in the appropriate context.	The Board include this item under the list of potential directives for Paramount to address in the Plan as it is consistent with the licence' requirements.
10	ESA's and Desktop Remediation Reports	The Plan is not informed by and/or does not incorporate the results, conclusions, and recommendations contained in the relevant Phase I and Phase II Environmental Site Assessments and Desktop Remediation Reports.	The plan should be updated or revised to reflect the results, conclusions, and recommendations contained in the relevant Phase I and Phase II ESAs and Desktop Remediation Reports.	The recommendations are best left within the reports so that the information is provided in the appropriate context.	The Board include this item under on the list of directives for Paramount to address in the Plan as the information requested could affect the extent of reclamation activities associated with the Project.
GNWT-ENR - EAM (Environmental Assessment and Monitoring) - GNWT ENR					
1	ARKTIS Solutions Memorandum	As part of the review of Paramount Resources Ltd. (Paramount) Closure and Reclamation Plan (CRP) for the type A land use permit (MV2021A0006) and type B water licence (MV2021L1-0006), ENR retained ARKTIS Solutions Inc. (ARKTIS) to conduct a technical review of the proposed documents. Due to insufficient information presented in the CRP and responses to GNWT's June 2021 comments on the water licence renewal application,	ENR recommends that the Board and Paramount refer to the attached ARKTIS memorandum for additional background and context supporting ENR's comments and recommendations herein.	Noted	Noted

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		<p>ARKTIS cannot provide an updated RECLAIM estimate for the Board consideration. ENR has extracted and summarized the comments and recommendations from the memorandum that outlines information requests to update the security estimate from ARKTIS and has provided them below. ENR has also attached the memo, which provides additional background for the Board and Paramount's information.</p>			
2	Well site reclamation	<p>Section 2.2 of the CRP indicates sites will undergo reclamation earthworks and revegetation. It is not clear what specific works are required for each wellsite, the size of the areas requiring works, or the schedule/duration of the specific works. These details are needed in the CRP to define the reclamation activity and approach. It is also noted from PRL's security estimate that the provided duration for reclamation of the well sites (180 hours) is not consistent with the camp operation</p>	<p>ENR recommends that Paramount specify which well sites require earthworks and revegetation, the level of works required and/or the size of the area requiring work, and the duration/schedule of the specific works.</p>	<p>N-01, O-35, I-46 : Reclamation earthworks are complete or will be completed by 25-Jan-2022 with any revegetation required to occur in Q2/Q3 of 2022. A-01: A vegetation assessment is to be conducted in Q1 2022 with any revegetation required to occur in Q2/Q3 of 2022. F-36: Following remediation partial reclamation in Q1 2022. Once riser is decommissioned at this Site, reclamation work will be completed. South Liard Access Road: Earthworks in Q1 2022 I-02. Reclamation is planned for Q1 2022 but is pending the results of the supplemental P2 ESA completed in January 2022.</p>	<p>The Board included this item under on the list of directives for Paramount to address in the Plan because the requested information will help to confirm the extent activities to be undertaken by the project.</p>

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		time (up to 50 people for 30 days), highlighting the need for further clarity on Project scheduling/duration.			
3	Remediation	<p>Section 2.3 of the CRP states no remediation is proposed. It is not clear from the CRP what is the basis of this approach. From review of the documentation provided in Appendix B, this approach appears to be based on the conclusions of desktop remediation reviews of Environmental Site Assessment (ESA) information. Although the ESA's noted several exceedances of various soil quality guidelines at the well sites, the review's concluded no environmental work is required based on an assessment of the risk to receptors.</p> <p>Due to the relatively short review period for the CRP, a detailed review of the ESAs as provided in the appendix of the CRP has not been conducted. It is recommended that the ESAs provided in the appendix of the CRP undergo a review and evaluation by the MVLWB and parties to</p>	ENR recommends that the ESAs provided in the appendix of the CRP to undergo a review and evaluation by the MVLWB and parties to further inform if the proposed reclamation activities, the closure criteria, and associated evaluation of environmental risks as discussed in the ESAs are documented in the CRP.	The relevant information is best left within the reports so that the information is provided in the appropriate context. All required information is or will be provided upon completion and has or will be subject to a public review by both reviewers and the MVLWB.	The Board include this item under list of directives for Paramount to address in the Plan given that the requested information will help to confirm the extent of activities to be undertaken by the project.

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		further inform if the proposed reclamation activities, the closure criteria, and associated evaluation of environmental risks as discussed in the ESAs are documented in the CRP. Such a review process aims to reduce uncertainty associated with the reclamation of the project site.”			
4	Financial security	Section 7.0 of the CRP states an updated security estimate will be provided prior to the end of 2020. An update to reflect current timelines is required.	ENR recommends that Paramount update the timeline for the submission of an updated security estimate.	Paramount is undertaking closure work this winter. Paramount would suggest it would be more appropriate to provide an updated security estimate at the end of this winter. Paramount will provide an updated security estimate by February 28, 2022.	Staff agree with GNWT-ENR’s suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan as security posted for the project helps to minimize liabilities posed by the project.
5	Timeline	Section 8.0 of the CRP includes timeframes for closure and reclamation events that start in 2021. It is not clear if some of these activities have therefore already occurred. If some activities have been postponed or delayed, an updated schedule will be required	ENR recommends that Paramount confirm if any closure and reclamation events have occurred in 2021 and provide an updated schedule if needed.	I-02 was completed October, 2021. A supplemental Phase II ESA drilling program (Phase II ESA) was recommended as the Drilling Waste Disposal Area (DWDA) was unable to be accessed as ground conditions were too wet for drilling. A Phase II ESA was conducted in January 2022. A report will be provided to Paramount Resources Limited within 60-90 days after the laboratory analysis have been received. F-36 supplemental Phase II ESA was completed in October, 2021. The report for the supplemental Phase II ESA will be provided to Paramount Resources Limited by February 15, 2022.	Staff agree with GNWT-ENR’s suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan

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6	Environmental Site Assessment reports	The Phase II Environmental Site Assessment (ESA) report for wellsite F-36 as well as the Phase I ESA report for O-35 was not provided among the ESA documentation in Appendix B. The Phase I and II reports are needed to provide supporting evidence for the current wellsite conditions and the proposed closure approach in the CRP.	ENR recommends that Paramount provide the Phase II Environmental Site Assessment (ESA) report for wellsite F-36 as well as the Phase I ESA report for wellsite O-35.	F-36 supplemental Phase II ESA was completed in October, 2021. The report for the supplemental Phase II ESA will be provided to Paramount Resources Limited by February 15, 2022. The O-35 P1 ESA was provided. It starts on Page 110 of the PDF.	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project.
7	Environmental Site Assessments	Section 2.1 of the CRP states a Phase II ESA for I-02, as well as a supplemental Phase II ESA for F-36, was planned for October 2021. Information from the associated ESA reports may provide an indication of any necessary remediation required and inform updates to the CRP and should be provided when available.	ENR recommends that Paramount confirm if the planned Phase II ESA for wellsite I-02 and F-36 have been completed, and if so, provide the associated ESA reports when available and describe any remediation requirements resulting from the ESAs. Provide an update on the timing for report submission.	I-02 was completed October, 2021. A supplemental Phase II ESA drilling program (Phase II ESA) was recommended as the Drilling Waste Disposal Area (DWDA) was unable to be accessed as ground conditions were too wet for drilling. A Phase II ESA was conducted in January 2022. A report will be provided to Paramount Resources Limited within 60-90 days after the laboratory analysis have been received. F-36 supplemental Phase II ESA was completed in October, 2021. The report for the supplemental Phase II ESA will be provided to Paramount Resources Limited by February 15, 2022.	The Board include this item under the list of directives for Paramount to address in the Plan because the requested information may help to determine the extent of closure and reclamation activities linked to the project.
8	Barge site	Maps of the Project site identify the presence of a barge site and associated camp site. However, no discussion regarding the barge and camp site is provided in the CRP. It is unknown the status and	ENR recommends that Paramount confirm if the barge and associated camp site is outside the scope of the CRP and if so explain why these items are not the responsibility of the Proponent for reclamation. If	Given the limited use and current state of the referenced camp site and barge site, reclamation activities are not contemplated for those sites.	

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		characteristics of the barge and camp site, whether they have been previously reclaimed and if there is supporting documentation of the reclaimed conditions, what reclamation activities may remain, or if they will be further used during the reclamation program. These details should be further confirmed in the CRP.	not outside the current project scope, identify the reclamation status of the barge and camp site and provide any documentation describing the current site conditions as well as describe any reclamation activities that remain to be completed and if the site will be used during the reclamation program.		
9	Sump, decking, camp and borrow site reclamation	The provided ESA documentation in Appendix B of the CRP provides an indication of the number of sumps, decking, camp and borrow sites present in the project area. However, the area size for some sites remains uncertain (i.e., F-36 decking and borrow site, O-35 borrow site) and should be confirmed. The current site conditions and reclamation status of each sump, decking, camp and borrow site also remains uncertain and should be described, along with a detailed description of any reclamation requirements for each site. These details will help to further define the reclamation activities and approach in the CRP.	ENR recommends that Paramount confirm the following: 1. Size of the area of the F-36 decking site. 2. Size of the area of the F-36 and O-35 borrow sites. 3. The reclamation status and current site conditions of each sump, decking, camp and borrow site. 4. Specific reclamation activities that are to occur for each sump, decking, camp and borrow site or describe why reclamation is not needed.	1. Size of Area of decking Site F-36 = This was not constructed. 2. Size of Area of borrow pit F-36 = This was not constructed. Size of Area of borrow pit O-35 = exact size unknown. East of site, adjacent. 3. Reclamation and site conditions of F-36: sump = onsite ,decking = not built, camp = 30 x 60m, reclaimed with vegetation, borrow site = not built O-35: sump = reclaimed with vegetation, decking =n/a , camp = reclaimed with vegetation, borrow site = small established pond with good vegetative and coniferous regrowth 4. Reclamation activities planned for = F-36: sump = onsite with lease ,decking = n/a, camp = n/a and, borrow site = n/a O-35: sump = monitor vegetation ,decking = n/a , camp = monitor vegetation and, borrow site = monitor vegetation	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project

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10	All-access and winter roads	The CRP does not provide the total length of the all-access and winter roads that are to be constructed to support abandonment and reclamation activities, nor does it specify the reclamation requirements for the all-access road. These details are needed to further define the reclamation activities and approach in the CRP.	ENR recommends that Paramount confirm the total length of all-access and winter road required to support reclamation activities and provide a map depicting the access requirements, as well as confirm the reclamation requirements for the all-access road.	This information is available on the public registry as part of this Land Use Permit and Water Licence this CRP is under.	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project
11	Culverts and bridges	The CRP does not identify the number of culverts and bridges requiring removal nor their characteristics. These details are needed to further define the reclamation activities and approach in the CRP.	ENR recommends that Paramount confirm the number of culverts and bridges requiring removal and details of their characteristics, physical size, and depth of installation, as applicable	This information is available on the public registry as part of this Land Use Permit and Water Licence this CRP is under. The CRP should not be viewed as a stand alone plan for the project	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project
12	Abandonment and reclamation equipment	The CRP does not describe or provide documentation detailing the quantity of equipment required for well abandonment and reclamation. Details on required equipment types and quantities are needed to further define the reclamation activities and approach in the CRP.	ENR recommends that Paramount confirm the quantities of each equipment type required for abandonment and reclamation activities.	This information was provided in the Land Use Permit and Water Licence application that this CRP falls under. The CRP should not be viewed as a stand alone plan for the project	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project
13	Reclamation camp mobilization	Details regarding the mobilization and demobilization of a reclamation camp to the	ENR recommends that Paramount confirm the number, type and size of camp structures to be	No camps will be required for future work. Camp information for this winters work was previously provided as part of the Land Use	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in

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	and demobilization	project site remain uncertain. Details regarding the number, type and size of camp structures, and point of origin for mobilization, will help to further define the reclamation activities and approach in the CRP.	mobilized to the site to support well abandonment and reclamation, as well as the point of origin for mobilization.	Permit and Water Licence application for this project.	the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project
14	Reclamation personnel and time requirements	The total number of personnel and time required to complete well abandonment and reclamation activities remains to be confirmed. The CRP only indicates well abandonment and reclamation earthworks are to occur over the course of multiple years between 2021 and 2023. These details will help to further define the reclamation activities and approach in the CRP.	ENR recommends that Paramount confirm the number of reclamation personnel and detailed time requirements (e.g., days, weeks, months) for the project.	It is anticipated that abandonment and the majority of the reclamation earthworks will be completed in the 2022 winter season. Paramount will provide an updated security estimate on February 28, 2022. That estimate will be reflective of the remaining workscope for the project area which is anticipated to be monitoring, revegetation activities (if required) and supplemental reclamation work (if required).	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project
15	Camp solid waste and sewage	Details regarding the anticipated quantities of solid waste and sewage waste to be generated from the reclamation camp remain uncertain. These details will help to further define the reclamation activities and approach in the CRP with regards to the removal of wastes generated over the course of the project.	ENR recommends that Paramount confirm the estimated quantity of (1) solid waste and (2) sewage waste generated during the reclamation project from the camp.	This information is included in the Waste Management Plan for the project area. The CRP should not be viewed as a stand alone plan for the project.	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. The requested information may help to determine the extent of closure and reclamation activities linked to the project

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16	Post-closure monitoring and maintenance	Section 5 of the CRP provides some details regarding the monitoring and potential maintenance program that is to occur post-closure. However, specific details remain uncertain, including the anticipated quantity of soil and/or water samples to be collected and the testing parameters, as well as the expected on-site time requirements to complete the monitoring program each year. It is also unclear what thresholds will be used to determine when and what maintenance activities may be required. Further, although not identified in the CRP, it should be confirmed if wildlife will also be monitored given it is typically included within closure monitoring programs for other oil and gas exploration sites in the Northwest Territories.	N,.kj,.klo,	Wildlife monitoring would only occur if and when personnel are in the project area. This is anticipated to be a few days a year. Additional requested information will be contained in the project The Post-Closure and Reclamation Monitoring and Maintenance Plan.	Staff agree with GNWT-ENR's suggestion and suggest that the Board include this item under any potential list of directives for Paramount to address in the Plan. While some aspects of the information required under this item may fall outside of the Board's mandate, most of the information may help to determine the extent of closure and reclamation activities linked to the project
17	GNWT EAM	Cover Letter			
18	Final review	Paramount Review			
19	Final review	Paramount Review			
GNWT-Lands - Dehcho Region - Dani Rogers					
1		The Inspectors have reviewed the Closure and	No comments	No comment	Noted

No.	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response	Board Decision
		Reclamation Plan and have no comments at this time.			