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November 13, 2019

MV2014F0013
MV2014L8-0006
MV2019L8-0002

Mr. David Harpley
Canadian Zinc Corporation
SUITE 1710-650 West Georgia Street
Vancouver BC V6B 4N9

Sent via Email

Dear Mr. Harpley:

**Issuance of Type A Land Use Permit and Type B Water Licences
Canadian Zinc Corporation – Prairie Creek All Season Road Project**

Attached is Type A Land Use Permit (Permit) MV2014F0013 granted by the Mackenzie Valley Land and Water Board (MVLWB or the Board) in accordance with the *Mackenzie Valley Resource Management Act* (MVRMA). This Permit has been approved for a period of 5 years commencing November 13, 2019 and expiring November 12, 2024.

Attached are Water Licences (Licence) MV2014L8-0006 and MV2019L8-0002 granted by the Board in accordance with the MVRMA and *Waters Act*. These Licences have been approved for a period of 20 years commencing November 13, 2019 and expiring November 12, 2039.

Conditions and General Procedures

Please read all the conditions carefully. For the purpose of submitting plans in accordance with the Permit and Licences, the date of this letter November 13, 2019, is the effective date. Also attached is a copy of the General Procedures for the Administration of Licences in the Northwest Territories. Please review these carefully and address any questions to the Board's office.

Reclamation Security

In accordance with Water Licence MV2014L8-0006 Part C condition 1 and Schedule 2 condition 1, a security deposit in the amount of \$336,341 shall be posted with the Minister of the Government of the Northwest Territories (GWNT) – Environment and Natural Resources and copied to the Board prior to the commencement of Phase 1 activities pursuant to section 35 of the *Waters Act*. Submit payment of the security, made out to the **Government of the Northwest Territories**, in the amount of \$336,341, to: Government of the Northwest Territories, Box 1320, Yellowknife, NT, X1A 2L9, Attention: Director, Water Resources. Please provide a copy of the receipt of security to the MVLWB office prior to the commencement of Phase 1 activities.

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In accordance with Land Use Permit MV2014F0013 26(1)(l) Security Deposit (condition 87) a security deposit in the amount of \$1,115,309 shall be posted with the Minister of the GNWT – Department of Lands and copied to the Board prior to the commencement of Phase 1 activities under section 32 of the Mackenzie Valley Land Use Regulations (MVLUR). As delegated under Schedule A of the Delegation Instrument under the MVRMA, this security deposit, payable to the **Government of the Northwest Territories** in the amount of \$1,115,309, shall be submitted to: the Government of the Northwest Territories, Department of Lands, North Slave Regional Office, 140 Bristol Avenue, Yellowknife NT, X1A 3T2. For more information about posting security with the GNWT, please contact Charlene Coe, Land Use Advisor, at (867) 767-9187 (ext. 24194). Please send a copy of the receipt for the security deposit to the MVLWB office prior to the commencement of Phase 1 activities.

In accordance with Land Use Permit MV2014F0013 26(1)(l) Security Deposit (condition 88), a security deposit in the amount of \$25,981 shall be posted with the Minister of the Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and copied to the Board prior to the commencement of Phase 1 activities pursuant to section 72.11 of the MVRMA. Submit payment of the security, made out to the **Receiver General for Canada**, in the amount of \$25,981, to: Crown-Indigenous Relations and Northern Affairs Canada, Box 1500, Yellowknife, NT, X1A 2R3, Attention: Ms. Michelle Desjarlais-Morris, Manager, Financial Services. Please provide a copy of the receipt of security to the MVLWB office prior to commencement of Phase 1 activities.

Water Use Fee – Licence MV2014L8-0006

As outlined in Part D condition 1, water use fees shall be paid annually as per subsection 8(1) of the *Waters Regulations*. This fee must be paid annually hereafter for the duration of the Licence on or before its anniversary date. Based on the water use fee calculator (attached), CZN's water use fee for the period of November 7, 2019 through to November 6, 2020 is \$1,091.35. Submit payment of the water use fee, made out to the **Government of the Northwest Territories**, in the amount of \$1,091.35, to: Mackenzie Valley Land and Water Board, Box 2130, Yellowknife, NT, X1A 2P6.

Spill Contingency Plan – Resubmission Required for Confirmation of Conformity by Board staff

The Board hereby requires that CZN revise and submit the Spill Contingency Plan in accordance with comments and commitments made during this review, as summarized in the Table 10 of Appendix A (attached). The Spill Contingency Plan are considered to be approved as an interim submission, and upon resubmission the Plan will require a confirmation of conformity from Board Staff. Please include a conformity table in the Plans when they are resubmitted that clearly outlines how each Board Directive will be met or provide justification if a Board Directive will not be met, or if it will be addressed in Phase 2. The Board notes that the Spill Contingency Plan must be approved and implemented at the beginning of a Project to prevent contamination of land and Water in case of any spills. Therefore, CZN cannot begin Phase 1 until the Spill Contingency Plan is considered approved.

Engagement Plan – Resubmission Required for Confirmation of Conformity by the Board

The Board hereby requires that CZN revise and submit the Engagement Plans 1 in accordance with comments and commitments made during this review, as summarized in the Table 4 of Appendix A (attached). The Engagement Plan are considered to be approved as an interim submission, and upon resubmission the Plan will require a public review and a confirmation of conformity from the Board. Please include a conformity table in the Plan when they are resubmitted that clearly outlines how each Board Directive will be met or provide justification if a Board Directive will not be met, or if it will be addressed in Phase 2.

Management Plans – Resubmission Required for Board Decision

The Board hereby requires that CZN revise and submit the Plans in Table 1 in accordance with comments and commitments made during this review, as summarized in the Appendix A (attached). These Plans are not considered to be approved, and upon resubmission the Plans will require a conformity check from Board Staff, Public Review, and Board decision. Please include a conformity table in the Plans when they are resubmitted that clearly outlines how each Board Directive will be met or provide justification if a Board Directive will not be met, or if it will be addressed in Phase 2.

Table 1: Denied Plans that require resubmission

| Permit MV2014F0013 Condition Number | Licence MV2014L8- 0006 Condition Number | Licence MV2019L8- 0002 Condition Number | Title of Plan | Board Directive in Appendix A |
|--|---|---|---|----------------------------------|
| 138 | Part F, condition 12 | Part E, condition 12 | Borrow Pit Management Plan | Table 1 |
| 109 | Part H, condition 1 | Part G, condition 1 | Closure and Reclamation Plan | Table 2 |
| 140 | Part F, condition 16 | Part E, condition 16 | Explosives Management Plan | Table 3 |
| 136 | Part F, condition 10 | Part E, condition 10 | Geochemical Verification Program | Table 5 |
| 85 | n/a | n/a | Invasive Species Management Plan | Table 6 |
| 48 | Part F, condition 8 | Part E, condition 8 | Permafrost Management and Monitoring Plan | Table 7 |
| 83 | n/a | n/a | Rare Plant Management Plan | Table 8 |
| 44 | Part F, condition 6 | Part E, condition 6 | Sediment and Erosion Control Plan | Table 9 |
| 142 | n/a | n/a | Traffic Control Mitigation and Road Operations and Maintenance Plan | Table 11 |
| 72 | Part F, condition 4 | Part E, condition 4 | Waste Management Plan | Table 12 |

CZN shall adhere to the commitments made throughout the proceeding for MV2014F0013, MV2014L8-0006, MV2019L8-0002, including: in response to reviewer comments dated May 15, 2019 and September 9, 2019; during Technical Session discussions held from June 5-7, 2019 in Yellowknife; and in response to Information Requests generated throughout the proceeding.

The Board also reminds CZN of the following:

- Link the Sediment and Erosion Control Plan and the construction plans to the extent possible, as they should work cooperatively together when being implemented (ENR-134, May 15, 2019)
- Include details of the inspection and monitoring plan for all stream crossing structures in the Sediment and Erosion Control Plan, given that the Road Construction and Management Plan is not a requirement of the Permit and Licences

- Include updated sections of the Winter Road and All Season Road that will be built within 100 metres of the Ordinary High Water Mark in the Design and Construction Plans and Structure Description and Construction Plans, where applicable
- Specify in the Avalanche Hazard Management Plan when during the winter season avalanche paths will be observed, including justification
- CZN is required to apply for the Waste from the ASR Project to be managed at the Mine and submit a Waste Management Plan under the Mining authorizations for Board decision prior to depositing Waste at the Mine
- The Board suggests CZN engage with ECCC prior to the development of the Contaminant Loading Management Plan

Public Registry

A copy of this Licence has been filed on the [Public Registry](#) at the MVLWB office. Please be advised that this letter, with attached procedures, all inspection reports, and correspondence related thereto, is part of the Public Registry and is intended to keep all interested parties informed of the manner in which the Permit and Licence requirements are being met. All Public Registry material will be considered if an amendment to the Licence is requested.

Reasons for Decision

The Reasons for Decision is currently undergoing final legal review and will be distributed once the legal review is completed.

The full cooperation of CZN is anticipated and appreciated. If you have any questions or concerns regarding this letter, please contact Jacqueline Ho at (867) 766-7455 or email jho@mvlwb.com

Yours sincerely,



Mavis Cli-Michaud
MVLWB, Chair

Copied to: Distribution List

Attached: Appendix A Tables 1-12

Land Use Permit MV2014F0013

Water Licence MV2014L8-0006

Water Licence MV2019L8-0002

General Procedures for the Administration of Licences in the Northwest Territories

Water Use Fee Calculator

Review Comment Summary Table – May 15, 2019

Review Comment Summary Table – September 9, 2019

Appendix A
Board Directives for Management Plan Resubmission

Table 1: Board Directives on Borrow Pit Management Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|---|---------------------------------------|
| a. | Include that a rock berm may need to be placed around borrow excavations, and that appropriate measures will be considered on a site-specific basis. | GNWT-Lands 4 |
| b. | Update to clarify the term “alternate alignment”. | PC-35 |
| c. | Include general arrangements plans for individual borrow sources that identify the needed area, outline staged pile development to use only the footprint required at each stage of construction, provide further details on erosion control measures, identify the volume of construction waste import, and identify surface drainage and stockpiling needs. | PC 38-39 |
| d. | Ensure that all information described in the Closure and Reclamation Plan is appropriately referenced. | PC 154 |

Table 2: Board Directives on Closure and Reclamation Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Provide more detail as to which of the described reclamation strategies would be applied to various areas and sections of the road depending on the pre and post development terrain and ecosystems. The extent to which the strategies will be implemented should also be quantified, where possible. | ENR-101 |
| b. | Provide further details about reclamation trials (when and where they will be conducted). | ENR-103 |
| c. | Provide further details about environmental monitoring (methods, frequency) following reclamation, as described in CZN’s response to ENR 104. | ENR-104 |
| d. | Re-evaluate and define terms such as “normal condition” and “significant” to ensure all aspects of the Plan are implemented in a consistent manner. | ENR-105 |
| e. | Update to identify the use of linear windrows along the edge of the right-of-way. | ENR-107 |
| f. | Update the plan to provide a summary of the alignment that will be deactivated with or without pullback compared to where removal of overland sections will occur, including a description of how CZN has determined this. | ENR-109; ENR-110; PC-148 |
| g. | Update to indicate that, if any ARD material is used inadvertently for construction, it will be removed following the end of the mine, or removed and replaced during operations if there are impacts to location vegetation or surface water in the surrounding environment. | ENR-132 |
| h. | Update maps to remove the Liard Transfer Facility (e.g. Fig 2 p.8). | GNWT-Lands Darren Campbell-5 |
| i. | Update to provide further information to address the commitments described in Developer’s commitment ID 224 of EA1415-01. | MVLWB-9 |
| j. | For the closure and reclamation of borrow sources, include the plan for storage of organics for reuse during the reclamation phase. | PC-39 |
| k. | For closure and reclamation of the borrow sources, provide an updated conceptual plan which presents the closure activities, objectives, and criteria in a form that is consistent with MVLWB/AANDC Guidelines. | PC-41 |
| l. | Ensure that information is consistent with the information in the Invasive Species Management Plan. | PC-116 |

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| m. | Update to include pre-disturbance information on vegetation cover and terrain conditions for the purpose of describing and quantifying reference communities. | PC-142 |
| n. | Update to clarify that all culverts to be removed during the closure and reclamation of the ASR will be disposed of at approved locations. | PC-147 |
| o. | Update to clarify what is meant by "to the extent possible" and "where practicable". Address limits to restoration. Where specific areas or ecosystem require non-standard approaches, provide an explanation, and a tailored approach with appropriate desired outcomes. | PC-149 |
| p. | Update to include the scenario for temporary closure that was described in response to Parks 153 (maintenance of environmental protection systems and appropriate associated monitoring during periods of temporary closure relates to the ongoing monitoring of bridges and culverts, areas of potential erosion, flooding, etc. that will be conducted to ensure that appropriate maintenance will be undertaken to achieve continuing compliance with ASR authorizations and legislation). | PC-153 |

Table 3: Board Directives on Explosives Management Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Update to include the option of returning all unused explosives to the supplier. | GNWT-Lands 34 |

Table 4: Board Directives on Engagement Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Update to include engagement records and an engagement plan with Acho Dene Koe First Nation. | ADKFN-3; PC-111 |
| b. | Details of the framework for the Dene monitoring program, in response to Measure 15-4. | LKFN-1 |
| c. | Include details for Dene monitor involvement in the process of monitoring for Seepage along the road (as per the Geochemical Verification Program). | LKDFN-6 |
| d. | Include details for Dene monitoring involvement in borrow investigation. | LKDFN-7 |
| e. | Include details for the identification training and tools for the Dene Monitors to enable them to participate in ongoing monitoring for rare, culturally valued, protected and invasive plant species. | LKFN-8; LKFN-9 |
| f. | Include details for how LKFN and NDDB will have the opportunity to review an updated AIA prior to any new land disturbance. | LKFN-11 |
| g. | Update Traditional Knowledge considerations for the Phase 1 winter road in accordance with Measure 10-1 (iii). Provide details of engagement for Plans that incorporated TK, and the mechanism. | PC-9 |
| h. | Update Engagement Records and Engagement Plan to include timeline for negotiation of agreements with Łíídlı́ Kúé First Nation and Nahanni Butte Dene Band | PC-109 |
| i. | Explain how Measure 10-2 and Measure 10-1 parts I and ii will be met prior to construction of Phase 1. | PC-112 |

Table 5: Board Directives on Geochemical Verification Program

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|---|---------------------------------------|
| a. | Change the wording in 5.3.3 Shake Flask Extraction Analysis to clarify that the filtered supernatant was analyzed by ICP-MS for multi-element chemical analysis. | ECCC-15 |
| b. | Details of the re-assessment of the 5 km section sampling frequency of granular material that will occur following summer 2019 and winter 2020 fieldwork, as described in CZN's response to ECCC 16. Add rationale for the proposed sampling frequency. | ENR-125 |
| c. | Clarify when the geochemical characterization will take place for the bedrock materials, as well as additional overburden materials, as described in CZN's response to ENR 123. | ENR-123 |

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| d. | Update to include the selection criterion and rationale for Shake Flask Extraction analysis and XRD analysis, as described by CZN in response to ENR 126. | ENR-126 |
| e. | Update the Plan to provide information to address commitment ID 125 of EA1415-01. | MVLWB-22 |

Table 6: Board Directives on Invasive Species Management Plan

| Item | Requirements | Review Comment Reference May 15, 2019 | Technical Session June 7, 2019 |
|------|---|---------------------------------------|---|
| a. | Include an integration of the results from the Dene Knowledge Study updated by LKFN and NDDB. | LKFN-9 | |
| b. | Clarify dates and road sections when Tetra Tech undertook rare plant surveys (under 1.4 Regulatory and Permitting Context). | MVLWB-10 | |
| c. | Include an appendix that will address invasive species control along the Nahanni Butte community access road, the old logging road and areas proximal to the road cleared by the community, and around the Prairie Creek Mine. Include the desired outcomes, and the treatment approach, methods, materials, and timing for treatment, as well as details of the monitoring necessary to verify the outcomes of treatment, and adaptive management options. | Parks-113 | |
| d. | Include an appendix of the protocol for the vehicle inspection station. | Parks-114 | |
| e. | Include a treatment plan for all 23 invasive species identified. | Parks-119 | |
| f. | Provide an executable, detailed monitoring plan. | Parks-120 | |
| g. | Ensure that information is consistent with the information in the Closure and Reclamation Plan. | Parks-116 | |
| h. | Whenever results are summarized, edit to indicate that there were invasive species detected north of the Liard River. | Parks-123 | |
| i. | Update to include figures documenting all baseline locations of invasive species. | PC-124 | |
| j. | Update to extend the duration of the wheel wash throughout by replacing "open water season" to "snow free season". | PC-125 | |
| k. | Update to include considerations taken to prevent the spread of whirling disease. | | Transcript pg. 72 line 12-pg.74 line 15 |

Table 7: Board Directives on Permafrost Management and Monitoring Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Update the legend of Figure A Permafrost Map of Canada so that it is readable. | ECCC-17 |
| b. | Include details about instrumented boreholes, including locations, depths and instrumentation details. This should include any new data from summer 2019 investigation work that was used to revise the plan for ground temperature instrumentation. | ENR-94, PC-136 |
| c. | Provide additional details on the installation timeline for the ground temperature cables (GTCs), particularly those that will be used in the baseline data collection. | ENR-95 |
| d. | Provide details about acquiring a robust baseline ground temperature dataset for permafrost areas, by collecting baseline data for as long as possible leading up to construction, as required by Measure 12-1. | ENR-96 |
| e. | Provide details about the selection of the two fully instrumented road sections, as described in CZN's response to ENR 97. | ENR-97 |
| f. | Provide additional information on the selection criteria for "high-risk permafrost areas" and a list of potential areas being considered for this instrumentation, as described by CZN in response to ENR 98. | ENR-98 |
| g. | Provide additional information on the frequency of permafrost monitoring and inspections, as described by CZN in response to ENR 99. | ENR-99 |
| h. | Include consideration to results from the Scotty Creek Research Station in further versions of the Plan. | LKFN-1 |

Table 8: Board Directives on Rare Plant Management Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Update to include the results of the Dene Knowledge Study updated by LKFN and NDDB. | LKFN-8 |
| b. | Once the detailed design and refined Project footprint is available, compare to the documented locations of rare plants. | PC-204 |
| c. | Add to Table 2: 1) GNWT Status Rank; 2) location of each occurrence relative to the Project footprint. For occurrences near the footprint, provide the distance in metres to the footprint; and 3) jurisdiction (NNPR, GNWT, IAB). | PC-205 |
| d. | Update to include results of further field investigations to establish rare plant Management Units that are adjacent to the alignment, to be conducted before construction in rare plant occurrence areas. This should include re-visiting the locations assessed in 2009. | PC-206; PC-209; Racher-26 |
| e. | Update to include a general framework outlining how decisions will be made regarding the management of rare plants. | PC-208 |
| f. | Indicate that all rare plant occurrences currently identified within the RPMP will be clearly marked prior to the start of construction. | PC-209 |
| g. | Update to address all requirements of Measure 11-2 part 2. | PC-210 |
| h. | Ensure the reference section is complete. | PC-211 |

Table 9: Board Directives on Sediment and Erosion Control Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Develop further to address and mitigate the potential for unanticipated impacts, as CZN committed to in response to ENR 133. Add that the rapid response plans (commitment #44 from EA) will be treated like a spill response outlined in a Spill Contingency Plan, as described by CZN in response to ENR. | ENR-133 |
| b. | Consider defining terms that will trigger an action or allow for an action to cease (“significant rainfall”, “heavy rainfall”, “significant runoff event”, “significant summer storm”, “intense precipitation event”, “high-water event”, “persistent rainfall”, “sensitive areas” and “successive weeks”) in response to ENR 135, PC 170. | ENR-135; PC-170 |
| c. | Update to reflect the inclusion of Dene monitors, as per commitment ID 96 from EA1415-01. | PC-12 |
| d. | Ensure that all information described in the Closure and Reclamation Plan is appropriately referenced. | PC-154 |
| e. | Update the Plan to expand the scope to address potential sources of erosion and sedimentation as a result of winter road construction; and identify proposed control and mitigation measures to address these sources. | PC-165 |
| f. | Update to expand the scope to address potential sources of erosion and sedimentation due to changed water flows from beaver dams; and identify proposed control and mitigation measures to address these sources. | PC-166 |
| g. | Remove the phrase “where practical and feasible” from the first sentence of section 5.2.2. | PC-171 |
| h. | Update to include re-vegetation related Best Management Practices. | PC-172 |

Table 10: Board Directives on Spill Contingency Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Update Appendix D to identify the main catchment basins, direction of flow of water courses, the location of spill response equipment, and waste and fuel storage locations. | ENR-144 |
| b. | Clarify the number of loads per year of mineral concentrate that will be transported by the ASR. | ENR-146 |
| c. | Update to include the concentrate haul plan results to update the worst-case scenario to reflect the maximum quantity of mineral concentrate that will be transported in one load. | ENR-147 |

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| d. | Update to ensure the worst-case scenario reflects a spill of the entire contents of the stored material or load, and that spill response preparedness will be based on the total load. | ENR-149 |
| e. | Update to include that all liquid hydrocarbons will have suitable secondary containment. | ENR-150 |
| f. | Update to include frequency of regular inspections (for items such as fuel storage tanks, heavy equipment and vehicles, greywater tanks and spill kits). | ENR-151 |
| g. | Update to include that all heavy equipment and refueling vehicles will carry portable spill kits that include items such as absorbent pads, containment booms, and spill pool catchment receptacles. | ENR-174 |
| h. | Expand reference about spill response trailer to say “spill-response trailers would also be used for spill response training, re-training, and spill response drills”. | GNWT-Lands-15 |
| i. | Update to clarify that fuel transfer operations will not occur in “sensitive areas” and that alternative locations will be chosen. | GNWT-Lands-16 |
| j. | Update to include that spills kits will be carried in all proponent and contractor vehicles, as part of standard practice. | GNWT-Lands-17 |
| k. | Update to include spill-drill reports. | GNWT-Lands-18 |
| l. | Update to acknowledge that CZN is responsible for any Project-related spill incident. | GNWT-Lands-19; MVLWB-20 |
| m. | Update to include maps showing locations of the short-term access roads associated with borrow sources. | GNWT-Lands-21 |
| n. | Include that conventional stationary spill kits will be located at barge-landing and storage leasehold locations. | GNWT-Lands-22 |
| o. | Consider including a discussion of scenarios when lids might come undone in concentrate containers. Update to include the information described by CZN about concentrate lids and containers in response to GNWT-Lands 24. | GNWT-Lands-24 |
| p. | Add details about monitoring/determining when vehicles will be stationary greater than 2 hours (observations will be conducted by construction foremen and Monitors multiple times per day during construction of all vehicles, and by Monitors during operations). | GNWT-Lands-26 |
| q. | Add “and at the staging areas on both sides of the Liard River” to section 4.1. | GNWT-Lands-27 |
| r. | Add to section 4.1: “Proof of regular maintenance and monitoring will be kept. This proof will take the form of records of Inspection, Maintenance, and Monitoring, which will be made available to a GNWT Inspector upon request”. | GNWT-Lands-29 |
| s. | In section 4.6 revise “Used absorbent materials from hydrocarbon spill response actions will be incinerated in the mine incinerator” to “in an approved incinerator”. Consider adding “as per the manufacturers recommended maintenance and operational specifications” to this sentence or provide justification as to why this would not be added. | GNWT-Lands-30 |
| t. | Add mention that all spills involving explosive material or product must be reported (as per the NWT Spills Working Agreement). | GNWT-Lands-32 |
| u. | Include the complete spelling of Methyl Isobutyl Carbinol Sodium Isobutyl Xanthate. | GNWT-Lands-32 |
| v. | Provide Safety Data Sheets which are compliant with Canadian and, if applicable, NWT specific legislation. | GNWT-Lands-33 |
| w. | Update CIRNAC Resource Management Officer phone number (867) 669-2442. | INAC-Yellowknife-2 |
| x. | Clarification on the strategy to contain spills in extreme scenarios described in section 4.4.3 of the Spill Contingency Plan. | MLVWB-21 |
| y. | Update to provide fuel storage locations. | PC-21 |
| z. | Include the types and quantities of hazardous materials that will be transported on the winter road and detail the locations for spill response equipment for each year of the winter road phase. Describe the anticipated travel times to a spill location. | PC-88 |
| aa. | Update to reflect the accurate amount of fuel that will be stored on site at any time (as indicated in the Main Report). | MVLWB-7 (Sept 9, 2019) |
| bb. | Add the Emergency Response Plan as an appendix to the end of the Spill Contingency Plan. | |

Table 11: Board Directives on Traffic Control Mitigation and Road Operations and Maintenance Plan

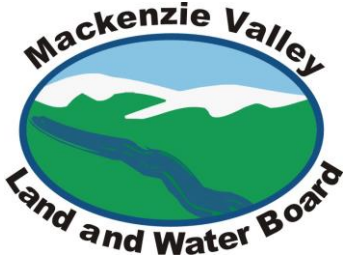
| Item | Requirements | Review Comment Reference May 15, |
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| a. | Add to plan: "vehicle traffic shall 'cease at least 500 m from (or at first observation of) the animal(s) and all headlights turned off until the animal moves off at least 100 m or 5 minutes after last visual. Once traffic resumes, speed reduced to half the posted speed limit within 1 km of the sighting' for all wildlife found on the road" and that this information will apply to all phases of the Project. | ENR-10 |
| b. | Include more specific monitoring procedures for wildlife and traffic interaction, and reporting. | ENR-11 |
| c. | Add details about corrective management to mitigate wildlife encounters with traffic (speed reductions and/or increased signage, and any other constructive options). Include details about wildlife studies completed prior to road construction that will further inform application of traffic controls, as discussed in CZN's response to ENR 12. | ENR-12 |
| d. | Identify data sources for baseline and operational data to be used for traffic control, as per Measure 5-2 Part 2 of EA1415-01, such as further information about use of a camera trap system or observations from Dene Monitors during construction and operations, and drivers during operations. Include adaptive management responses to traffic data. | ENR-13 |
| e. | Include a detailed section related to management and monitoring of non-mine related traffic (including data collection, analysis and reporting for this specific type of traffic). | ENR-14 |
| f. | If a cattle guard is to be implemented, include details about the cattle guard usage and location. Ensure that information is consistent with what is outlined in the Invasive Species Management Plan. | ENR-15 |
| g. | Revise text about non-emergency reporting to include immediate reporting of vehicle collisions with wildlife, and immediate unauthorized fishing, hunting, trapping to the appropriate authority. | ENR-16 |
| h. | Include examples of data collection forms and operating procedures related to traffic control and wildlife management in the appendix. | ENR-17 |
| i. | Include the removal of boulders from the shoulder area of the roadway which might (reasonably) punctuate overturned fuel tanker trucks. | GNWT-Lands-23 |
| j. | Update to reflect the inclusion of Dene monitors, as per commitment ID 96 from EA1415-01. | MVLWB-12 |
| k. | Update the Plan to address commitment ID 98 from EA1415-01. | MVLWB-15 |
| l. | Explain how Measure 5-2, Part 2 a) will be met. | MVLWB-16 |
| m. | Clarify the form of the journey management system that will be in place during Phase 1. | PC-46; PC-198 |
| n. | Update to identify the contact information of appropriately trained staff or responsible Agency; develop protocols explaining who, how, and when to dispatch wildlife along the ASR. | PC-50 |
| o. | Update to include a Wildlife Observation Form. | PC-52 |
| p. | Update to provide a comprehensive list of hazards to traffic and how they will be managed. | PC-53 |
| q. | Update to include the revised statement that "All personnel are to remain in the vehicle and/or shelter if wildlife species are observed on the road or near the road prism. | PC-54 |
| r. | Include that rock scaling and/or trim blasting are maintenance activities that will potentially be required in sections of rock slopes adjacent to the ASR. | PC-183 |
| s. | Wildlife mitigations noted in the draft ROMP be replaced with references to the WMMP. | PC-184 |
| t. | Clarify that there are 6 bird species at risk, 4 of which are confirmed to occur in the area (CONI, OSFC, BASW and CAWA). | PC-185 |
| u. | Update to include reference to the Invasive Species Management Plan. | PC-186 |

Table 12: Board Directives on Waste Management Plan

| Item | Requirements | Review Comment Reference May 15, 2019 |
|------|--|---------------------------------------|
| a. | Add further details about the management plan for all waste hydrocarbon items (used sorbents and rags, etc.), as described in response to ENR 4. Consider that in the NWT it is no longer best practice to incinerate oil rags and sorbents. | GNWT-Lands-13 |
| b. | Include details of the incinerators designed to accommodate the incineration of food items and oil, including supporting documents on the model and design of the incinerator. | ENR-4; ENR-8 |
| c. | Clarify which camps will have an incinerator and include details of operating training, records management and reporting, and plans for residual management, as described in response to ENR 113. | ENR-113 |

| | | |
|----|---|----------------------------|
| d. | Add Incineration Management Strategies that demonstrate the device and procedures selected are suitable to the waste stream intended for incineration. This should include: a) A description of waste streams intended for incineration; b) Selected incineration technology and rationale for selection (the minimum requirement to accommodate complex waste streams should be a dual-chamber, controlled-air incinerator); c) A description of recycling and waste segregation plans that control waste entering the incinerator; d) Operator training and qualifications, and the use of trained and designated operators; e) Procedures for operation and maintenance, including record-keeping (i.e. completion of burn cycle and maintenance logs, and recording of the weight of each waste load charged to the incinerator); f) A reporting requirement to summarize the tracking and record-keeping component; and, g) Weigh scales to record the weight of each load charged to the incinerator; h) Details of emission measurement methods, where applicable. | ENR-165 |
| e. | Add that a government regulatory document granting permission to incinerate waste oil at the road camps will be referenced if waste oil is to be incinerated. | GNWT-Lands-11 |
| f. | Add to Table 2 that fluorescent lights will be stored in weatherproof containers prior to being shipped off-site to a registered hazardous waste receiver. | ENR-5 |
| g. | Further details about the plan to obtain input from Indigenous partners on the Project and ENR regarding adaptive management for waste/wildlife issues. | ENR-7 |
| h. | Provide further details to 3.8 Monitoring, Inspections and Adaptive Management that describe how information will be collected and analyzed to inform issue management and mitigation/adaptive management actions. | ENR-9 |
| i. | Update to include the need to confirm the designation of domestic waste at the time of construction, including confirmation from the Fort Nelson Municipal Landfill that they are willing to accept the potential types and associated quantities of waste generated from the ASR Project that CZN may transport there. | ENR-118 |
| j. | Update to reflect that bioremediation for contaminated soil cannot occur at the Prairie Creek Mine until this activity is approved under the mine authorizations (MV2008L2-0002 and MV2008D0014). Provide contingencies for contaminated soil that CZN was proposing to transport and manage at the mine. | DFN-4; ENR-119; MVLWB-4 |
| k. | Add that sealed animal proof containers are cleared once emptied to minimize the attraction of wildlife. | ENR-183 |
| l. | Include a map which depicts an example of a typical temporary hazardous waste storage location at a road camp. | GNWT-Lands-7 |
| m. | Consider including documentation demonstrating that an agreement exists with a registered hazardous waste receiver to receive used petroleum products. | GNWT-Lands 12 |
| n. | Update to reflect that waste from the Project will not be managed at the Prairie Creek Mine until it is approved by the Board under the mine authorizations (MV2008L2-0002 and MV2008D0014), and provide contingencies for Waste that CZN was proposing to transport and manage at the Mine. | ENR-116; Racher- 12 |
| o. | Add details about potable water, including where potable water will be sourced, how it will be treated (if necessary), and potable water storage facilities. | PC-131 |
| p. | The updated Waste Management Plan includes a response to Parks 133 that states that "For Phase 1, all grey water and black water will be hauled out of the NNPR". Indicate where the grey water from the NNPR will be transported to for disposal. | PC-133 |



Land Use Permit

| | | |
|--------------|-------------|--------------|
| Permit Class | Permit No | Amendment No |
| A | MV2014F0013 | - |

Subject to the Mackenzie Valley Land Use Regulations and the terms and conditions in this Permit, authority is hereby granted to:

Canadian Zinc Corporation

Permittee

to proceed with the land use operation described in the Application of:

| | |
|--|------------------------|
| Signature Mr. David Harpley | Date April 16, 2014 |
| Type of Land Use Operation Road | |
| Location All Season Road connecting Prairie Creek Mine to the Liard Highway | |

This Permit may be assigned, extended, discontinued, suspended, or cancelled pursuant to the Mackenzie Valley Land Use Regulations.

Dated at Yellowknife this 13 day of November, 2019

Signature Chair

Mavis Cli-Michaud

Signature Witness

Amanda Gauthier

Effective Date:

November 13, 2019

Expiry Date:

November 12, 2024

ATTENTION

It is a condition of this Permit that the Permittee comply with the provisions of the *Mackenzie Valley Resource Management Act* and Regulations and the terms and conditions set out herein. A failure to comply may result in suspension or cancellation of this Permit.

**Conditions Annexed to and Forming Part of
Land Use Permit # MV2014F0013**

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Part A Scope

1. This Permit entitles the Permittee to conduct the following land-use operation:
 - a) Construction, operation, and maintenance of an All Season Road, including the Construction, operation, and maintenance of a temporary Winter Road;
 - b) Development and operation of Borrow Pits;
 - c) Operation of Construction Camps, including equipment, fuel and material storage areas;
 - d) Construction, operation and maintenance of access roads;
 - e) Construction of bridges and culverts;
 - f) Use of explosives;
 - g) Use of self-propelled earth moving equipment and equipment over 10 tons;
 - h) Use and storage of fuel;
 - i) Use of machinery for moving earth and clearing land; and
 - j) Use of motorized earth drilling machinery.
2. This Permit is issued subject to the conditions contained herein with respect to the use of land for the activities and area identified in Part A, condition 1 of this Permit.
3. Compliance with the terms and conditions of this Permit does not excuse the Permittee from its obligation to comply with the requirements of any applicable Federal, Territorial, or Municipal laws.

Part B: Definitions¹

Acid Rock Drainage – acidic Water, often with elevated sulphate concentrations, that occurs as a result of oxidation of sulphide minerals contained in rock or other materials that are exposed as a result of natural weathering processes, Construction, or Project activities.

Adaptive Management – a systematic, rigorous approach for deliberately learning from management actions with the intent to improve management policy or practice, conducted in accordance with the Report of Environmental Assessment Appendix B.

Action Level – a predetermined qualitative or quantitative trigger which, if exceeded, requires the Permittee to take appropriate actions.

All Season Road – road, used in all seasons, that conforms to the alignment and material configuration as presented in the Design and Construction Plan and Design Drawings.

Archaeological Impact Assessment – archaeological research as defined by the Prince of Wales Northern Heritage Centre *Guidelines for Developers for the Protection of Archaeological Sites in the Northwest Territories*.

Archaeological Overview – a study of archaeological sites as defined by the Prince of Wales Northern Heritage Centre *Guidelines for Developers for the Protection of Archaeological Sites in the Northwest Territories*.

Avalanche Professional – a person registered with the Canadian Avalanche Association to practice as an Associate Member, and whose professional field of specialization is appropriate to address the components of the Project at hand.

¹ Defined terms are capitalized throughout the Permit, including when used in other definitions.

Board – the Mackenzie Valley Land and Water Board established under subsection 99(1) of the *Mackenzie Valley Resource Management Act*.

Borehole – a hole that is made in the surface of the ground by drilling or boring.

Borrow – excavated material including clay, silt, sand, and quarry rock, as described in the approved Borrow Pit Management Plan.

Borrow Pit – an excavation made according to the approved Borrow Pit Management Plan in order to produce Borrow.

Closure Cost Estimate – has the same meaning as that in the Mackenzie Valley Land and Water Board, Government of the Northwest Territories, and Aboriginal Affairs and Northern Development Canada's *Guidelines for Closure and Reclamation Cost Estimates for Mines*.

Closure Criteria – has the same meaning as that in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advance Mineral Exploration and Mine Sites in the Northwest Territories*.

Closure Objectives – has the same meaning as that in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advance Mineral Exploration and Mine Sites in the Northwest Territories*.

Closure and Reclamation – the process and activities that facilitate the return of areas affected by the Project to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and the surrounding environment.

Closure and Reclamation Plan – a document, developed in accordance with this Permit and the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*, that clearly describes the Closure and Reclamation for the Project.

Concentrate – the product emanating from the processing of ore at the Prairie Creek Mine.

Construction – any activities undertaken during any phase of the Project to construct build any structures, facilities or components of, or associated with, the development of the Project.

Dogleg – the clearing of a line, trail, or right-of-way that is curved sufficiently so that no part of the clearing beyond the curve is visible when approached from either direction.

Drilling Fluids – any liquid mixture of water, sediment, drilling muds, chemical additives or other Wastes that are pumped down hole while drilling and are specifically related to drilling activity.

Drilling Waste – all materials or chemicals, solid or liquid, associated with drilling, including drill cuttings and Drilling Fluids.

Engagement Plan – a document, developed in accordance with the Board's *Engagement and Consultation Policy* and the *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*, that clearly describes how, when, and which engagement activities will occur with an affected party during the life of the Project.

Engineered Structure – any structure or facility related to water use or the deposit of Waste that is designed by a Professional Engineer.

Environmental Assessment – the totality of the Mackenzie Valley Environmental Impact Review Board’s Public Registry for Environmental Assessment EA1415-01, including the Report of Environmental Assessment.

Flowing Artesian Well – a well in which water:

- a) Naturally rises above the ground surface or the top of any casing; and
- b) Flows naturally, either intermittently or continuously.

Fuel Storage Container – a container for the storage of petroleum or allied petroleum products with a capacity of less than 230 litres.

Fuel Storage Tank – a closed container for the storage of petroleum or allied petroleum products with a capacity of more than 230 litres.

Geotechnical Investigations – Borehole drilling, geophysics and test pit excavations to evaluate Permafrost, soil and/or rock type and/or condition, carried out by qualified professionals.

Greywater – all liquid Wastes from showers, baths, sinks, kitchens, and domestic washing facilities but not including Toilet Wastes.

Habitat – the area or type of site where a species or an individual of a species of wildlife naturally occurs or on which it depends, directly or indirectly, to carry out its life processes.

Independent Technical Review Panel (Panel) – the expert panel established by the Permittee to fulfill Measure 5-1 of the Report of Environmental Assessment.

Inspector – an Inspector designated by the Minister under the *Mackenzie Valley Resource Management Act*.

Metal Leaching – the release of metals and metalloids in leachate, Seepage, or drainage from rock or other materials associated with the Project.

Minister – the Minister of Crown-Indigenous Relations and Northern Affairs Canada or the Minister of the Government of the Northwest Territories – Department of Lands, as the case may be.

Non-Typical Winter Road – sections of the Winter Road as documented in the Design and Construction Plan and Design Drawings.

Ordinary High Water Mark – the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land. In flowing waters (rivers, streams) this refers to the “active channel/bank-full level” which is often the 1:2 year flood flow return level. In inland lakes, wetlands, or marine environments, it refers to those parts of the Watercourse bed and banks that are frequently flooded by water so as to leave a mark on the land and where the natural vegetation changes from predominately aquatic vegetation to terrestrial vegetation (excepting water tolerant species). For reservoirs, this refers to normal high operating levels (full supply level).

Permittee – the holder of this Permit.

Permafrost – ground (soil or rock) that remains at or below 0°C for at least two consecutive years.

Potentially Acid Generating (PAG) Rock – any rock that has the potential to produce Acid Rock Drainage.

Phase 1 – activities to support the Construction of the All Season Road in Phase 2, including the Construction and operation of the Winter Road to conduct Geotechnical Investigation and transport equipment and materials to Prairie Creek Mine.

Phase 2 – activities to support the Construction of the All Season Road including the Construction and operation of the Winter Road and of All Season Road Construction.

Phase 3 – activities to support the operation of the All Season Road including transportation of loaded Concentrate, consumable materials and supplies to support mine operations, and road maintenance.

Professional Engineer – a person registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists to practice as a Professional Engineer in the Northwest Territories in accordance with the territorial *Engineering and Geoscience Professions Act*, and whose professional field of specialization is appropriate to address the components of the Project at hand.

Progressive Reclamation – Closure and Reclamation activities conducted during the operating period of the Project.

Project – the undertaking described in Part A, condition 1.

Receiving Environment – the natural environment that, directly or indirectly, receives any deposit of Waste from the Project.

Reclamation Research – has the same meaning as that in the MVLWB/AANDC *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*.

Report of Environmental Assessment (Report of EA) – the Mackenzie Valley Environmental Impact Review Board's Report of Environmental Assessment and Reasons for Decision for the EA1415-01, dated September 12, 2017, and adopted by the Minister of Crown-Indigenous Relations on October 9, 2018.

Safety Data Sheet – a technical document, typically written by the manufacturer or supplier of a chemical, that provides information about the hazards associated with the product, advice about safe handling and storage, and emergency response procedures.

Secondary Containment – containment that prevents liquids that leak from Fuel Storage Tanks or Fuel Storage Containers from reaching outside the containment area and includes double-walled Tanks, piping, liners, and impermeable barriers.

Seepage – any water or Waste that drains, passes through, or escapes from any structure designed to contain, withhold, divert, or retain water or Waste.

Sewage – all Toilet Wastes and Greywater.

Sewage Disposal Facility – Sump(s) and/or Sewage collection tank(s) and/or storage containers designed to hold Sewage.

Spill Contingency Plan – a document, developed in accordance with Aboriginal Affairs and Northern Development Canada's *Guidelines for Spill Contingency Planning*.

Spring Break-up – March 31 each year, for the purpose of this operation.

Sump – a man-made pit or natural depression in the earth's surface used for the purpose of depositing Waste that does not contain Toxic Material, such as non-toxic Drilling Waste or Sewage, therein.

Temporary Closure – a state of care and maintenance, with the intent of resuming activities in the near future.

Toilet Wastes – all human excreta and associated products, not including Greywater.

Traditional Knowledge – the cumulative, collective body of knowledge, experience and values built up by a group of people through generations of living in close contact with nature. It builds upon the historic experiences of a people and adapts to social, economic, environmental, spiritual, and political change.

Toxic Material – any substance that enters or may enter the environment in a quantity or concentration or under conditions such that it:

- a) Has or may have an immediate or long-term harmful effect on the environment or its biological diversity;
- b) Constitutes or may constitute a danger to the environment on which life depends; or
- c) Constitutes or may constitute a danger in Canada to human life or health.

Typical Winter Road – the road alignment, not including the Non-Typical Winter Road, that is constructed with snow and ice.

Unauthorized Discharge – a release or Discharge of any Waters or Waste not authorized under this Permit.

Waste – any garbage, debris, chemical, or Toxic Material to be used, stored, disposed of, or handled on land, and also as defined in section 51 of the *Mackenzie Valley Resource Management Act*.

Waste Management Plan – a document, developed in accordance with the Board's *Guidelines for Developing a Waste Management Plan*, that describes the methods of Waste management from Waste generation to final disposal.

Waste Rock – extracted rock material that is not utilized in construction or reclamation.

Watercourse - a natural body of flowing or standing water or an area occupied by water during part of the year, and includes streams, springs, swamps and gulches but does not include groundwater.

Winter Road – the alignment including both the Typical Winter Road and Non-typical Winter Road sections.

Part C: Conditions Applying to All Activities²

26(1)(a) Location and Area

- | | |
|---|-------------------------------------|
| 1. The Permittee shall only conduct this land-use operation on lands designated in the application. | LOCATION OF ACTIVITIES |
| 2. The Permittee shall not conduct any part of the land-use operation within 300 metres of any privately owned or leased land or structure, including cabins used for traditional activities, unless otherwise authorized in writing by the Board. | PRIVATE PROPERTY SETBACK |
| 3. The Permittee shall locate all Camps according to the approved Structure Description and Construction Plan or the approved Design and Construction Plan. | CAMP LOCATION |
| 4. The Permittee shall use an existing campsite, as described in the complete application. | USE EXISTING CAMP |
| 5. Prior to the commencement of drilling, the Permittee shall submit the target areas and final drill hole locations on a 1:10,000-scale map with coordinates and map datum to the Board and an Inspector. | DRILL LOCATIONS |
| 6. The Permittee shall not locate any Sump within 100 metres of the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector. | SUMP SETBACK |
| 7. The Permittee shall not develop a Borrow Pit operation within 100 metres of the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector. | BORROW PIT SETBACK |
| 8. The Permittee shall locate all lines, trails, and right-of-ways to be constructed parallel to any Watercourse a minimum of 100 metres from the Ordinary High Water Mark, except at crossings, or as approved in the Design and Construction Plans or Structure Description and Construction Plans. | PARALLEL WATERCOURSE SETBACK |
| 9. Prior to the commencement of the land-use operation, the Permittee shall accompany an Inspector during an inspection of the proposed land use area. | INSPECT LOCATIONS |
| 10. The Permittee shall confine the width of the right-of-way in accordance with the approved Design and Construction Plan or Structure Description and Construction Plans. | WIDTH RIGHT-OF-WAY |

² Headings correspond to subsection 26(1) of the Mackenzie Valley Land Use Regulations.

26(1)(b) Time

11. A minimum of 10 days prior to the commencement of the Project including Phase 1, 2, and 3, the Permittee shall provide written notification to the Board, a Government of the Northwest Territories (GNWT) Inspector, and a Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Inspector. Notification shall include the commencement date, and the name and contact information for the Project Field Supervisor. Any updates shall be provided to the Board, a GNWT Inspector, and a CIRNAC Inspector in writing as changes occur. **WRITTEN NOTIFICATION**

12. At least ten days prior to the commencement of the land-use operation, the Permittee's Field Supervisor shall contact a GNWT Inspector at (867) 695-2626, and a CIRNAC Inspector at (867) 669-2442. **INITIAL NOTIFICATION – CONTACT INSPECTOR**

13. At least ten days prior to returning to the worksite following a seasonal shut down period, the Permittee's Field Supervisor shall contact a GNWT Inspector at (867) 695-2626, and a CIRNAC Inspector at (867) 669-2442. **SEASONAL NOTIFICATION – CONTACT INSPECTOR**

14. At least 48 hours prior to commencement of the land-use operation, the Permittee shall provide the following information, in writing, to the Board and an Inspector: **IDENTIFY AGENT**
 - a) The name(s) of the person(s) in charge of the field operation;
 - b) Alternates; and
 - c) All methods for contacting the above person(s).

15. At least ten days prior to a shut down period, the Permittee shall advise an Inspector of: **REPORTS BEFORE SEASONAL REMOVAL**
 - a) The plan for removal or storage of equipment and materials; and
 - b) When cleanup and Progressive Reclamation of the land used will be completed.

16. At least ten days prior to the completion of the land-use operation, the Permittee shall advise an Inspector of: **REPORTS BEFORE FINAL REMOVAL**
 - a) The plan for removal or storage of equipment and materials;
 - b) When final cleanup and reclamation of the land used will be completed; and
 - c) When the final plan will be submitted.

17. Beginning March 31, 2020 and no later than every March 31 thereafter, the Permittee shall submit an **Annual Permit Report** to the Board and the Inspector, which shall include, but not be limited to, the following information about activities conducted during the previous calendar year: **ANNUAL PERMIT REPORT**
 - a) A brief summary of Project activities;
 - b) An updated Project schedule;
 - c) A summary of engagement activities conducted in accordance with the approved Engagement Plan;
 - d) A summary of how Traditional Knowledge influenced decision making;
 - e) A summary of Construction activities;
 - f) A summary of repairs and maintenance activities conducted in accordance with this Permit;

- g) A summary of activities conducted in accordance with the approved Waste Management Plan, including:
 - i. A summary of approved updates or changes to the process or facilities required for the management of Waste;
 - ii. Monthly and annual quantities, in cubic metres, of all solid Waste discharged, identified by location;
 - iii. Monthly and annual quantities, in cubic metres, of all liquid Waste discharged, identified by location;
 - iv. Monthly and annual quantities, in cubic metres, of hazardous Waste generated and removed;
 - v. Monthly and annual quantities, in cubic metres, of Sewage solids removed from the Sewage Disposal Facilities, identified by disposal location; and
 - vi. A map depicting the location of the Sumps.
- h) A summary of activities conducted in accordance with the approved Sediment and Erosion Control Plan, including:
 - i. A summary of approved updates or changes to the process or facilities required for the management of erosion and sedimentation;
 - ii. A description of any erosion susceptible areas encountered;
 - iii. A summary of activities undertaken to prevent or mitigate erosion;
 - iv. A report of the performance of mitigations applied to each area;
 - v. A summary and interpretation of monitoring results, including any Action Level exceedances; and
 - vi. A description of actions taken in response to any Action Level exceedances.
- i) A summary of activities conducted in accordance with the approved Permafrost Management and Monitoring Plan, including:
 - i. A summary and interpretation of any monitoring results, including Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- j) A summary of activities conducted in accordance with the approved Geochemical Verification Program, including:
 - i. A summary of approved updates or changes to the processes for characterizing and managing Acid Rock Drainage and Metal Leaching material;
 - ii. A comparison of the annual quantities of each type of Waste Rock generated to the quantities predicted in the approved Geochemical Verification Program;
 - iii. A summary and interpretation of results from the geochemical monitoring performed under the approved Geochemical Verification Program;
 - iv. A summary and interpretation of results from Seepage monitoring performed under the approved Geochemical Verification Program, including:
 - a. a site map with Seepage locations;
 - b. comparisons to reference locations;
 - c. an analysis of major trends over the year and since Project inception; and

- d. a summary of recommendations for future Seepage monitoring and/or management actions.
 - v. A summary and interpretation of water quality monitoring results for each of the main source areas and how these compare to predicted values;
 - vi. A summary of any exceedances of the Action Levels described in the Geochemical Verification Program; and
 - vii. A description of actions taken in response to any Action Level exceedances under the Geochemical Verification Program.
- k) A summary of activities conducted in accordance with the approved Borrow Pit Management Plan, including:
 - i. A summary of borrow sources approved through the Borrow Pit Management Plan;
 - ii. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - iii. A list of any Action Level exceedances and a description of actions taken in response to any Action Level exceedances.
- l) A summary of activities conducted in accordance with the approved Explosives Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to any Action Level exceedances.
- m) A summary of activities conducted in accordance with the approved Rare Plant Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- n) A summary of activities conducted in accordance with the approved Invasive Species Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- o) A summary of activities conducted in accordance with the approved Spill Contingency Plan, including:
 - i. A list and description for all Unauthorized Discharges, including the date, NWT spill number, volume, location, summary of the circumstances and follow-up actions taken, and status (i.e. open or closed); and
 - ii. A summary of any spill training carried out.
- p) A summary of any Closure and Reclamation work completed. The Report shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*.

- q) A summary of activities conducted in accordance with the approved Avalanche Hazard Management Plan, including:
 - i. Reporting of avalanche paths completed by an Avalanche Professional;
 - ii. A summary of measures employed to reduce avalanche risk to vehicles and occupants;
 - iii. A summary and interpretation of any monitoring results, including any Action Level exceedances; and
 - iv. A list of any Action Level exceedances, and a description of actions taken in response to Action Level exceedances.
- r) A summary of activities conducted in accordance with the approved Traffic Control Mitigation and Road Operations and Maintenance Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- s) A summary of activities conducted in accordance with the approved Contaminant Loading Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- t) A list of any non-compliance with the conditions of this Permit or any direction from the Board pursuant to the conditions of this Permit;
- u) A summary of actions taken to address concerns, non-conformances, or deficiencies in any reports filed by an Inspector;
- v) A table detailing all commitments related to water use and deposit of Waste made during the Environmental Assessment, with descriptions of how each commitment is being or has been met;
- w) Any other details requested by the Board by November 30 of the year being reported.

26(1)(c) Type and Size of Equipment

- | | |
|---|-------------------------------|
| 18. The Permittee shall only use equipment of a similar type, size, and number to that listed in the complete application. | USE APPROVED EQUIPMENT |
| 19. The Permittee shall use portable ramps during loading and unloading of aquatic vessels, including ships, boats, and barges. | PORTABLE RAMPS |

26(1)(d) Methods and Techniques

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|--|---|
| 20. The Permittee shall ensure that all Engineered Structures are constructed and maintained in accordance with the recommendations of the Professional Engineer responsible for the design, including, but not limited to, recommendations regarding field supervision and inspection requirements. | ENGINEERED STRUCTURES – GENERAL |
| 21. The Permittee shall ensure that all materials used in Construction of the Project meets the geochemical criteria specified in the approved Geochemical Verification Program. | CONSTRUCTION MATERIAL – GEOCHEMICAL CRITERIA |

- | | |
|---|---|
| <p>22. The Permittee shall only use material that is clean, non-PAG and free of contaminants and is from a source within an approved area as per the approved Borrow Pit Management Plan, or that has been approved in writing by an Inspector.</p> | <p>CONSTRUCTION MATERIAL – SOURCE</p> |
| <p>23. The Permittee shall maintain Construction records and geochemical records of Construction materials for all structures and make them available at the request of the Board or an Inspector.</p> | <p>GEOCHEMICAL RECORDS</p> |
| <p>24. The Permittee shall establish and fund an Independent Technical Review Panel in accordance with Measure 5-1 of the Report of EA.</p> | <p>INDEPENDENT TECHNICAL REVIEW PANEL – ESTABLISHMENT</p> |
| <p>25. A minimum of 90 days of the prior to the commencement of the Panel’s activities, the Permittee shall submit the Panel’s Terms of Reference to the Board for approval, to fulfill Report of EA Measure 5-1. The Permittee shall submit a revised Terms of Reference 90 days prior to implementation of any changes to the Terms of Reference.</p> | <p>INDEPENDENT TECHNICAL REVIEW PANEL – TERMS OF REFERENCE</p> |
| <p>26. The Permittee shall comply with the Panel’s Terms of Reference, once approved.</p> | <p>TERMS OF REFERENCE – COMPLY</p> |
| <p>27. Unless otherwise authorized by an Inspector, a minimum of 90 days prior to the commencement of Construction of all structures, excluding Engineered Structures, intended to contain, withhold, divert, or retain Wastes, the Permittee shall submit to the Board for approval, a Structure Description and Construction Plan. The Permittee shall not commence Construction prior to Board approval of the Plan, which shall include but not be limited to the following:</p> <p>a) Information about the design of the facilities:</p> <ul style="list-style-type: none"> i. A description of the facilities to be constructed; ii. The proposed location(s) of the facilities, with GPS coordinates and a map to scale; iii. Relevant background information for the area beneath the footprint of the containment and runoff control structures, including the results of geotechnical and geochemical investigations; hydrogeological investigations; programs to characterize soil, rock, Groundwater, ground ice, and ground temperature conditions to the depth expected to be affected by the proposed facilities; and any other relevant information; iv. Design specifications and performance parameters; and v. Design analysis and results. <p>b) Information about the Construction of the facilities:</p> <ul style="list-style-type: none"> i. A Construction schedule, including sequencing information; ii. A description of the materials required for Construction, including, but not limited to: <ul style="list-style-type: none"> a. sources; b. quantities; c. physical characteristics; and d. geochemical characteristics. | <p>STRUCTURE DESCRIPTION AND CONSTRUCTION PLAN</p> |

- iii. A description of any potential impacts on the Receiving Environment associated with Construction of the facilities;
 - iv. A description of any mitigation measures that will be undertaken to minimize the potential impacts identified above;
 - v. A description of the Construction monitoring program to demonstrate conformance with design specifications; and
 - vi. A description of the operational monitoring program to demonstrate conformance with the design performance.
- c) A description of Adaptive Management processes that systematically link monitoring results to management activities and allow management activities to be developed adaptively, in response to changes in the Receiving Environment.

28. A minimum of 90 days prior to the commencement of Construction of any Engineered Structures not reviewed and accepted by the Panel, the Permittee shall submit to the Board for approval, a **Design and Construction Plan**. The Plan shall include but not be limited to the following:

**DESIGN AND
CONSTRUCTION PLAN**

- a) Information about the design of the facilities:
- i. A description of the facilities to be constructed;
 - ii. The proposed location(s) of the facilities, with GPS coordinates and a map to scale;
 - iii. Relevant background information for the area beneath the footprint of the containment and runoff control structures, including the results of geotechnical and geochemical investigations; hydrogeological investigations; programs to characterize soil, rock, Groundwater, ground ice, and ground temperature conditions to the depth expected to be affected by the proposed facilities; and any other relevant information, as deemed adequate by the Professional Engineer responsible for the design;
 - iv. Design specifications and performance parameters; and
 - v. Stability analysis.
- b) Information about the Construction of the facilities:
- i. A Construction schedule, including sequencing information;
 - ii. A description of the materials required for Construction, including, but not limited to:
 - a. sources;
 - b. quantities;
 - c. physical characteristics; and
 - d. geochemical characteristics.
 - iii. A description of any potential impacts on the Receiving Environment associated with Construction of the facilities;
 - iv. A description of any mitigation measures that will be undertaken to minimize the potential impacts identified above;
 - v. A description of the Construction monitoring program to demonstrate conformance with design specifications; and
 - vi. A description of the operational monitoring program to demonstrate conformance with the design performance.

- c) A description of Adaptive Management processes that systematically link monitoring results to management activities and allow management activities to be developed adaptively, in response to changes in the Receiving Environment.
- d) A quality control plan stamped by a Professional Engineer, a component of which includes a plan for a Professional Engineer to supervise and field check Construction activities.

29. A minimum of 90 days prior to the commencement of Construction of any Engineered Structures not reviewed and accepted by the Panel, the Permittee shall submit to the Board, **Design Drawings** stamped and signed by a Professional Engineer. A minimum of 90 days prior to implementing any proposed changes, the Permittee shall submit revised Design Drawings to the Board.

DESIGN DRAWINGS

30. A minimum of 45 days prior to the commencement of Construction of any structures reviewed and accepted by the Panel, the Permittee shall submit to the Board the following:

**INDEPENDENT
TECHNICAL REVIEW
PANEL – FINAL REPORT**

- a) A **Final Report** from the Panel that indicates their review and acceptance of the Engineered Structures, its Design and Construction Plan, and Design Drawings or any other structures and its Structure Description and Construction Plan;
- b) A **Design and Construction Plan, or Structure Description and Construction Plan**, reviewed and accepted by the Panel; and;
- c) A **Design Drawing** of the Engineered Structure stamped and signed by a Professional Engineer, and reviewed and accepted by the Panel.

31. The Permittee may propose revisions at any time to the structures reviewed and accepted by the Panel by submitting to the Board the following:

**INDEPENDENT
TECHNICAL REVIEW
PANEL – REVISIONS TO
FINAL REPORT**

- a) A revised Final Report from the Panel that indicates their review and acceptance of the revised Design and Construction Plan and Design Drawings or Structure Description and Construction Plan;
- b) A revised Design and Construction Plan or Structure Description and Construction Plan reviewed and accepted by the Panel; and
- c) A revised Design Drawing stamped and signed by a Professional Engineer and reviewed and accepted by the Panel.

Any revision submission shall include a revision history table and a summary of the revisions made. The Permittee shall not implement revisions until approved by the Board.

32. A minimum of ten days prior to the commencement of Construction of any Engineered Structure(s), the Permittee shall provide written notification to the Board and an Inspector. Notification shall include the Construction commencement date, and the name and contact information for the Construction Field Supervisor. Any updates shall be provided to the Board and an Inspector in writing as changes occur.

**NOTIFICATION –
CONSTRUCTION**

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| 33. The Permittee shall ensure that all structures, excluding Engineered Structures, are constructed in accordance with the approved Structure Description and Construction Plan(s). | CONSTRUCT AS DESIGNED – STRUCTURES |
| 34. The Permittee shall ensure that all Engineered Structures are constructed in accordance with the Design Drawings and approved Design and Construction Plans. | CONSTRUCT AS DESIGNED – ENGINEERED STRUCTURES |
| 35. Within 90 days of the completion of the Construction of each Engineered Structure, the Permittee shall submit to the Board, an As-Built Report stamped and signed by a Professional Engineer, which shall include, but not be limited to, the following information: a) Final as-built drawings of the Engineered Structure(s), stamped and signed by a Professional Engineer; b) Documentation, with rationale, of field decisions that deviate from the Design and Construction Plans and Design Drawings; and c) Any data used to support these decisions. | AS-BUILT REPORT – ENGINEERED STRUCTURES |
| 36. The Permittee shall Dogleg lines, trails and right-of-ways that approach Watercourses or public roads. | DOGLEG APPROACHES |
| 37. Prior to the movement of any vehicle that exerts pressure on the ground in excess of 35 kPa, the Permittee shall scout proposed lines and routes to select the best location for crossing streams and avoiding terrain obstacles. | DETOURS AND CROSSINGS |
| 38. As the land-use operation progresses, the Permittee shall refill and restore craters caused by explosives. | REFILL CRATERS |
| 39. Immediately upon completion of operations at each Borehole, the Permittee shall remove or cut off and seal each drill casing at ground level. | DRILL CASINGS |
| 40. The Permittee shall construct and maintain the overland portion of Winter Roads, excluding the Non-Typical Winter Road, with a minimum of 10 cm of packed snow and/or ice, at all times during this land-use operation. | WINTER ROADS |
| 41. The Permittee shall not erect Camps or store material, other than that required for immediate use, on the ice surface of a Watercourse. | STORAGE ON ICE |
| 42. Prior to the expiry date of this Permit, the Permittee shall replace all excavated material, excluding Borrow Quarry Rock, unless otherwise authorized in writing by an Inspector. | EXCAVATED MATERIAL |
| 26(1)(e) Type, Location, Capacity, and Operation of All Facilities | |
| 43. The Permittee shall ensure that the land use area is kept clean at all times. | CLEAN WORK AREA |

26(1)(f) Control or Prevention of Ponding of Water, Flooding, Erosion, Slides, and Subsidence of Land

**SEDIMENT AND
EROSION CONTROL
PLAN**

44. The Permittee shall comply with the **Sediment and Erosion Control Plan**, once approved. The Sediment and Erosion Control Plan shall include, but not be limited to the following information for the activities associated with each phase:
- a) Inspections on land, including but not limited to:
 - i. Short- and long-term inspection methods, locations (provide a map), and parameters;
 - ii. Inspection form(s) that denote the items/parameters that will be assessed during inspection;
 - iii. Inspection frequency including any criteria that will be used to modify this frequency or discontinue;
 - iv. Quality assurance and quality control; and
 - v. A mechanism for reporting the findings of inspections.
 - b) Monitoring on land, including but not limited to:
 - i. Short- and long-term monitoring (survey, sampling, testing) methods;
 - ii. Monitoring locations and collection methodology including supporting rationale and parameters;
 - iii. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - iv. Quality assurance and quality control;
 - v. A mechanism for reporting and interpretation of the monitoring data;
 - vi. Proposed control and mitigation measures, including specific measures that will be used in riparian areas; and
 - vii. A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - a. a decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.
 - c) Details specific to the hoverbarge associated structures, including but not limited to:
 - i. Details outlining sedimentation and erosion management during construction of the hoverbarge associated structures;
 - ii. Operational details of the hoverbarge associated structures, including sedimentation and erosion management following construction;
 - iii. Hoverbarge associated structure inspections and monitoring;
 - iv. Proposed sedimentation and erosion control and mitigation measures associated with hoverbarge associated structure operations; and
 - v. A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - a. a decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.

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| 45. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Sediment and Erosion Control Plan. The Permittee shall not commence Phase 1 activities prior to Board approval. | SEDIMENT AND EROSION CONTROL PLAN – REVISED |
| 46. The Permittee shall apply appropriate mitigation at the first sign of erosion. | REPAIR EROSION |
| 47. The Permittee shall install and maintain culverts such that scouring, undercutting, blockages, and overflow do not occur. | CULVERT SIZE |
| 48. The Permittee shall comply with the Permafrost Management and Monitoring Plan , once approved. The Permafrost Management and Monitoring Plan shall be in accordance with Report of EA Measure 12-1 Part 4 , and shall include, but not be limited to the following for the activities associated with each phase: | PERMAFROST MANAGEMENT AND MONITORING PLAN |
| <ul style="list-style-type: none"> a) Identification of monitoring/survey methods, locations (provide a map), site selection and parameters for Permafrost baseline collection and short/long term monitoring; b) A summary of findings from baseline collection and how it will be used to inform detailed and final design of the Winter Road, All Season Road, Borrow Pits, and other infrastructure in a way that anticipates and avoids Permafrost degradation and associated impacts on the surrounding environment; c) Sampling duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring; d) Quality assurance and quality control measures; e) A mechanism for reporting and interpreting the baseline, short- and long-term monitoring data; f) Proposed control and mitigation measures; and g) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to: <ul style="list-style-type: none"> i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program. | |
| 49. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Permafrost Management and Monitoring Plan. The Permittee shall not commence Phase 1 activities prior to Board approval. | PERMAFROST MANAGEMENT AND MONITORING PLAN – REVISED |
| 50. The Permittee shall insulate the ground surface beneath all structures associated with this land-use operation to prevent: | PERMAFROST PROTECTION |
| <ul style="list-style-type: none"> a) Any vegetation present from being removed; b) The melting of Permafrost; and c) The ground settling and/or eroding. | |
| 51. The land-use operation shall not cause obstruction to any natural drainage. | NATURAL DRAINAGE |

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| 52. The Permittee shall, where flowing water from a Borehole is encountered: | FLOWING ARTESIAN WELL |
| a) Plug the Borehole in such a manner as to permanently prevent any further outflow of water; and | |
| b) Immediately report the occurrence to the Board and an Inspector. | |
| 53. The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface. | PREVENTION OF RUTTING |
| 54. The Permittee shall suspend overland travel of equipment or machines the first sign of rutting or gouging. | SUSPEND OVERLAND TRAVEL |
| 55. The Permittee shall not move any equipment or machines unless the ground surface is in a state capable of fully supporting the equipment or machine without rutting or gouging. | VEHICLE MOVEMENT FREEZE-UP |
| 56. The Permittee shall only use clean water and snow in the Construction of ice bridges and snow fills. | CONSTRUCT ICE BRIDGES SNOWFILLS |
| 57. Prior to Spring Break-up or completion of the land-use operation, the Permittee shall clean up and either remove or v-notch all snowfills from stream crossings, unless otherwise authorized in writing by an Inspector. | REMOVE ICE BRIDGES/SNOWFILLS |
| 58. The Permittee shall minimize approach grades on all Watercourse crossings. | MINIMIZE APPROACH |
| 59. The Permittee shall not cut any stream bank, unless otherwise authorized in writing by an Inspector. | STREAM BANKS |
| 60. The Permittee shall use temporary bridges or dry fording when crossing streams. | DRY FORDING |
| 61. The Permittee shall slope the sides of Waste material piles, excavations, and embankments — except in solid rock — to a minimum ratio of 2:1 vertical, unless otherwise authorized in writing by an Inspector. | EXCAVATION AND EMBANKMENTS |
| 62. The Permittee shall not remove vegetation or operate heavy equipment within 100 metres of the Ordinary High Water Mark of any Watercourse, except at crossings or as described in the complete application. | EQUIPMENT: WATERCOURSE BUFFER |
| 63. The Permittee shall not excavate land within 100 metres of the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector. | EXCAVATION SETBACK |
| 26(1)(g) Use, Storage, Handling, and Ultimate Disposal of Any Chemical or Toxic Material | |
| 64. At least seven days prior to the use of any chemicals that were not identified in the complete application, the Safety Data Sheet must be provided to the Board and an Inspector. | CHEMICALS |

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| 65. The Permittee may deposit Drilling Waste that does not contain Toxic Material in a Sump or natural depression. Any Sumps or natural depressions used to deposit Drilling Waste must be located at least 100 metres from the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector. | DRILLING WASTE |
| 66. The Permittee shall remove all Drilling Waste containing Toxic Material to an approved disposal facility. | DRILLING WASTE DISPOSAL |
| 67. The Permittee shall not allow any Drilling Waste to spread to the surrounding lands or Watercourses. | DRILLING WASTE CONTAINMENT |
| 68. Prior to the expiry date of this Permit or the end of the land-use operation whichever comes first, the Permittee shall backfill and restore all Sumps, or otherwise authorized in writing by an Inspector. | RECLAIM SUMPS |
| 69. The Permittee shall dispose of all Toxic Material as described in the approved Waste Management Plan. | WASTE CHEMICAL DISPOSAL |
| 70. The Permittee shall dispose of all Waste petroleum products by removal to an approved disposal facility or by incineration in a device designed for this purpose, as described in the approved Waste Management Plan. | WASTE PETROLEUM DISPOSAL |

26(1)(h) Wildlife and Fish Habitat

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| 71. The Permittee shall take all reasonable measures to prevent damage to wildlife and fish Habitat during this land-use operation. | HABITAT DAMAGE |
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26(1)(i) Storage, Handling, and Disposal of Refuse or Sewage

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| 72. The Permittee shall comply with the Waste Management Plan , once approved. | WASTE MANAGEMENT PLAN |
| 73. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Waste Management Plan. The Permittee shall not commence Phase 1 activities prior to Board approval. | WASTE MANAGEMENT PLAN – REVISED |
| 74. The Permittee shall keep all garbage and debris in a secure container until disposal. | GARBAGE CONTAINER |
| 75. The Permittee shall dispose of all garbage, Waste, and debris as described in the approved Waste Management Plan, unless otherwise authorized in writing by an Inspector. | REMOVE GARBAGE |
| 76. The Permittee shall dispose of all Sewage and Greywater as described in the approved Waste Management Plan. | SEWAGE DISPOSAL - PLAN |

26(1)(j) Protection of Historical, Archaeological, and Burial Sites

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| 77. The Permittee shall not operate any vehicle or equipment within 30 metres of a known or suspected historical or archaeological site or burial ground. | ARCHAEOLOGICAL BUFFER |
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78. The Permittee shall not knowingly remove, disturb, or displace any archaeological specimen or site. **SITE DISTURBANCE**
79. The Permittee shall, where a suspected archaeological or historical site, or burial ground is discovered: **SITE DISCOVERY AND NOTIFICATION**
- a) Immediately suspend operations on the site; and
 - b) Notify the Board at (867) 669-0506 or a GNWT Inspector at (867) 695-2626 and a CIRNAC Inspector at (867) 669-2442, and the Prince of Wales Northern Heritage Centre at 767-9347 ext. 71251 or ext. 71255.
80. Prior to any new land disturbance, the Permittee shall conduct an Archaeological Impact Assessment of the sites where disturbance is planned, to fulfill Report of EA Measure 10-2, and shall submit a summary report to the Board and the Prince of Wales Northern Heritage Centre. **AIA**
81. The Permittee shall comply with the **Cultural Heritage Protection Plan**, once approved. The Plan shall be informed by the results of all archaeological investigations to date (Archaeological Overview and Archaeological Impact Assessment(s)), and shall include, but not be limited to, the following information for the activities associated with each phase: **CULTURAL HERITAGE PROTECTION PLAN**
- a) An accidental finds protocol;
 - b) A plan to provide training on accidental finds to persons working under the authority of this Permit; and
 - c) A heritage resource booklet including photographs to be provided to persons working under the authority of this Permit.
82. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a Cultural Heritage Protection Plan. The Permittee shall not commence Phase 1 activities prior to Board approval. **CULTURAL HERITAGE PROTECTION PLAN – REVISED**

26(1)(k) Objects and Places of Recreational, Scenic, and Ecological Value

83. The Permittee shall comply with the **Rare Plant Management Plan**, once approved. The Plan shall be in accordance with Report of EA Measure 11-1, Part 2 and 15-1, and shall include, but not be limited to the following information for the activities associated with each phase: **RARE PLANT MANAGEMENT PLAN**
- a) Mitigation measures to be implemented to minimize significant adverse impacts on rare plants or rare plant assemblages;
 - b) Details on how rare plants will be identified and monitored during Construction and operation activities;
 - c) Details on effects monitoring for any identified rare plants or rare plant assemblages; and
 - d) Identification of actions that will be taken if rare plants are identified during Construction and operation of the Project.
 - e) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.

84. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Rare Plant Management Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.
- RARE PLANT
MANAGEMENT PLAN -
REVISED**
85. The Permittee shall comply with the **Invasive Species Management Plan**, once approved. The Plan shall fulfill the Report of EA Measure 11-2, Part 4 and 15-1, and shall include, but not be limited to the following information for the activities associated with each phase:
- INVASIVE SPECIES
MANAGEMENT PLAN**
- a) Baseline data of the entire right-of-way for the presence of invasive species, focusing on areas with higher likelihood of the establishment of invasive species, that shall inform mitigations;
 - b) Mitigations that will prevent the spread of invasive species;
 - c) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.
86. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Invasive Species Management Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.
- INVASIVE SPECIES
MANAGEMENT PLAN –
REVISED**
- 26(1)(I) Security Deposit**
87. The Permittee shall deposit with the Minister of the Government of the Northwest Territories – Department of Lands security deposit totaling \$1,335,217 based on the schedule set out below:
- SECURITY DEPOSIT –
TERRITORIAL**
- a) Prior to the commencement of Phase 1 activities, the Permittee shall post and maintain a total security deposit in the amount of \$1,115,309; and
 - b) Prior to the commencement of Phase 2 activities, the Permittee shall post and maintain an additional deposit in the amount of \$219,908, to maintain a total amount of deposit of \$1,335,217.
88. The Permittee shall deposit with the Minister of Crown-Indigenous Relations and Northern Affairs Canada a security deposit totaling \$82,703 based on the schedule set out below:
- SECURITY DEPOSIT – IAB**
- a) Prior to the commencement of Phase 1 activities, the b Permittee shall post and maintain a total security deposit in the amount of \$25,981; and
 - b) Prior to the commencement of Phase 2 activities, the Permittee shall post and maintain an additional deposit in the amount of \$56,722, to maintain a total amount of deposit of \$82,703.
89. All costs to remediate the area under this Permit are the responsibility of the Permittee.
- RESPONSIBILITY FOR
REMEDICATION COSTS**

26(1)(m) Fuel Storage

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| 90. The Permittee shall: | CHECK FOR LEAKS |
| a) Examine all Fuel Storage Containers and Fuel Storage Tanks for leaks a minimum of once per day; and | |
| b) Repair all leaks immediately. | |
| 91. The Permittee shall not place any Fuel Storage Containers and or Tanks within 100 metres of the Ordinary High Water Mark of any Watercourse, or in a drainage channel, unless otherwise authorized in writing by an Inspector. | FUEL STORAGE SETBACK |
| 92. The Permittee shall ensure that all fuel caches have adequate Secondary Containment. | FUEL CACHE SECONDARY CONTAINMENT |
| 93. The Permittee shall set up all refueling points with Secondary Containment. | SECONDARY CONTAINMENT – REFUELING |
| 94. The Permittee shall not allow petroleum products to spread to surrounding lands or Watercourses. | FUEL CONTAINMENT |
| 95. The Permittee shall locate mobile fuel facilities on land when the facilities are stationary for more than 12 hours. | FUEL ON LAND |
| 96. The Permittee shall mark all Fuel Storage Containers and Tanks with the Permittee's name. | MARK CONTAINERS AND TANKS |
| 97. The Permittee shall mark all stationary fuel caches and fuel storage facilities with flags, posts, or similar devices so that they are at all times plainly visible to local vehicle travel. | MARK FUEL LOCATION |
| 98. The Permittee shall have a maximum of 353,572 litres of fuel stored on the land use site at any time, unless otherwise authorized in writing by the Board. | MAXIMUM FUEL ON SITE |
| 99. Within ten days of the establishment of any fuel cache, the Permittee shall report the location and quantity of the cache in writing to the Board and an Inspector. | REPORT FUEL LOCATION |
| 100. The Permittee shall seal all outlets of Fuel Storage Containers and store the containers on their sides with the outlets located at 3 and 9 o'clock, except for containers currently in use. | SEAL OUTLET |
| 101. The Permittee shall comply with the Spill Contingency Plan , once approved. | SPILL CONTINGENCY PLAN |
| 102. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Spill Contingency Plan. The Permittee shall not commence Phase 1 activities prior to Board approval. | SPILL CONTINGENCY PLAN – REVISED |

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| 103. Prior to commencement of the land-use operation the Permittee shall ensure that spill-response equipment is in place, as identified in the Spill Contingency Plan, to respond to any potential spills. | SPILL RESPONSE |
| 104. All equipment that may be parked for two hours or more, shall have a haz-mat/drip tray under it or be sufficiently diapered. Leaky equipment shall be repaired immediately. | DRIP TRAYS |
| 105. The Permittee shall clean up all leaks, spills, and contaminated material immediately. | CLEAN UP SPILLS |
| 106. If, during the period of this Licence, a spill or an Unauthorized Discharge occurs or is foreseeable, the Permittee shall: | REPORT SPILLS |
| <ul style="list-style-type: none"> a) Implement the approved Spill Contingency Plan; b) Immediately report it using the NU-NT Spill Report Form by one of the following methods: <ul style="list-style-type: none"> • Telephone: (867) 920-8130 • Fax: (867) 873-6924 • E-mail: spills@gov.nt.ca • Online: Spill Reporting and Tracking Database c) Within 24 hours, notify the Board and an Inspector; and d) Within 30 days of initially reporting the incident, submit a detailed report, including descriptions of causes, response actions, and any changes to procedures to prevent similar occurrences in the future, to the Board and an Inspector. Any updates to this report shall be provided to the Board and an Inspector in writing as changes occur. | |

26(1)(n) Methods and Techniques for Debris and Brush Disposal

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| 107. Prior to the expiry date of this Permit, the Permittee shall progressively dispose of all brush and trees and shall complete all brush disposal; all disposal shall be completed prior to the end of this land use operation. | BRUSH DISPOSAL/ TIME |
| 108. The Permittee shall not clear areas larger than identified in the complete application. | MINIMIZE AREA CLEARED |

26(1)(o) Restoration of the Lands

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| 109. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a Closure and Reclamation Plan to fulfill Report of EA Suggestion 14-1. The Plan shall include, but not be limited to, the following information: | CLOSURE AND RECLAMATION PLAN |
| <ul style="list-style-type: none"> a) A description of how the Report of EA Suggestion 14-1 is fulfilled; b) A plain language summary of the Plan; c) A description of the overall goals for Closure and Reclamation of the Project, including expected future land use; d) A description of the Closure and Reclamation planning team; | |

- e) A description of engagement related to Closure and Reclamation planning, including a summary of completed and planned engagement, and links to the Engagement Plan;
- f) A list of any other regulatory instruments required for Closure and Reclamation of the Project;
- g) A description of the pre-existing and current Project environment, including, but not limited to:
 - i. Climatic conditions;
 - ii. Physical conditions;
 - iii. Chemical conditions;
 - iv. Biological conditions;
 - v. Physical or chemical assessments of soil, water and Permafrost; and
 - vi. Traditional uses.
- h) A description of the Project, including, but not limited to:
 - i. Site history;
 - ii. Project development;
 - iii. Current state of the Project;
 - iv. Maps delineating all disturbed areas, Borrow locations, site facilities, hydrological features, and elevation contours; and
 - v. Photographs.
- i) A description of each Project component, including but not limited to:
 - ii. Stream crossings;
 - iii. Camp and laydown area;
 - iv. Liard River barge crossing and landing areas;
 - v. Borrow Pits;
 - vi. Areas affected by spills or Unauthorized Discharges; and
 - vii. Other areas affected by Project activities.
- j) For the Project site, a description of Closure and Reclamation plans, including but not limited to:
 - i. Closure Objectives and Closure Criteria;
 - ii. Preferred Closure Reclamation option and method for each Project component;
 - iii. Design drawings, signed and stamped by a Professional Engineer, for any Engineered structures;
 - iv. Water management and restoration of natural drainage;
 - v. Predicted environmental effects during and after Closure and Reclamation activities;
 - vi. Post-closure monitoring, maintenance, and reporting;
 - vii. Description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B;
 - viii. Uncertainties and contingencies;
 - ix. Climate change considerations; and
 - x. Reclamation Research plans.
- k) A description of any planned Progressive Reclamation, including, but not limited to:
 - i. Progressive Reclamation goals and objectives;
 - ii. A description of activities (including timing) and methods (including techniques and materials);
 - iii. Description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B;

- iv. Contingencies; and
- v. An implementation schedule.
- l) A plan for Temporary Closure, including, but not limited to the following information:
 - i. Temporary Closure goals and objectives;
 - ii. A description of activities and methods;
 - iii. A description of monitoring, maintenance, and reporting;
 - iv. A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B;
 - v. Contingencies; and
 - vi. An implementation schedule.
- m) An implementation schedule that includes Progressive Reclamation and final Closure and Reclamation activities; and
- n) A Closure Cost Estimate.

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| 110. A minimum of 90 days prior to the commencement of Phase 2 activities, or as directed by the Board, the Permittee shall submit to the Board, for approval, a revised Closure and Reclamation Plan. | CLOSURE AND RECLAMATION PLAN - REVISED |
| 111. A minimum of two years prior to the end of operations, the Permittee shall submit to the Board, for approval, a final Closure and Reclamation Plan to fulfill Report of EA Suggestion 14-1. The Plan shall include but not be limited to the information in the Closure and Reclamation Plan. | CLOSURE AND RECLAMATION PLAN - FINAL |
| 112. The Permittee shall endeavor to carry out Progressive Reclamation of disturbed areas as soon as it is practical to do so. | PROGRESSIVE RECLAMATION |
| 113. The Permittee shall conduct Progressive Reclamation in accordance with the most-recently approved Closure and Reclamation Plan, or as otherwise approved by the Board. | PROGRESSIVE RECLAMATION – CARRY OUT AS APPROVED |
| 114. A minimum of ten days prior to the commencement of any Progressive Reclamation, the Permittee shall provide written notification to the Board and an Inspector. Notification shall include the name and contact information for the Construction Field Supervisor. | PROGRESSIVE RECLAMATION – NOTIFICATION |
| 115. Within 90 days of completing Closure and Reclamation of any specific component of the Project, the Permittee shall submit to the Board a Closure and Reclamation Completion Report . The Report shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada’s <i>Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories</i> . | CLOSURE AND RECLAMATION COMPLETION REPORT |
| 116. Within four months of completing Closure and Reclamation of any specific component of the Project, the Permittee shall submit to the Board, for approval, a Performance Assessment Report . The Report shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada’s <i>Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories</i> . The Permittee shall submit subsequent Report(s) as directed by the Board. | PERFORMANCE ASSESSMENT REPORT |

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| 117. All areas affected by Construction or removal activities shall be stabilized and landscaped to their pre-Construction profiles, unless otherwise authorized in writing by an Inspector. | PRE-CONSTRUCTION PROFILES |
| 118. The Permittee shall store overburden and use it to recontour the site after operations are complete, unless otherwise authorized in writing by an Inspector. | SAVE AND PLACE ORGANIC SOIL |
| 119. Prior to the expiry date of this Permit, the Permittee shall level all stockpiles of granular material located within the land use area, or as described in the approved Borrow Pit Management Plan. | LEVEL STOCKPILES |
| 120. Prior to the expiry date of this Permit, the Permittee shall complete all cleanup and restoration of the lands used. | FINAL CLEANUP AND RESTORATION |
| 121. The Permittee shall restore any trails impacted by the land-use operation by removing fallen trees and any other obstructions from the trails. | TRAILS RESTORATION |
| 26(1)(p) Display of Permits and Permit Numbers | |
| 122. The Permittee shall display a copy of this Permit in each camp established to carry out this land-use operation. | DISPLAY PERMIT |
| 123. The Permittee shall keep a copy of this Permit on hand at all times during this land-use operation. | COPY OF PERMIT |
| 26(1)(q) Biological and Physical Protection of the Land | |
| 124. The Permittee shall ensure all submissions to the Board: a) are in accordance with the Mackenzie Valley Land and Water Board's <i>Document Submission Standards</i> ; and b) include a conformity statement or table which identifies where the pertinent requirements of this Permit, or other direction from the Board, are addressed. | SUBMISSION FORMAT |
| 125. The Permittee shall ensure management plans are submitted to the Board in a format consistent with the Mackenzie Valley Land and Water Board's <i>Standard Outline for Management Plans</i> , unless otherwise specified. | MANAGEMENT PLANS – USE STANDARD OUTLINE |
| 126. The Permittee shall comply with all terms of reference, plans, reports, studies and programs approved as per the conditions of this Permit, including such revisions made as per the conditions of this Permit, and as approved by the Board. | COMPLY WITH SUBMISSIONS AND REVISIONS |
| 127. The Permittee may propose revisions at any time by submitting a revised terms of reference, plans, reports, and programs to the Board for approval. Unless otherwise specified, a minimum of 90 days prior to implementing any proposed updates or changes in the terms of reference, plans, reports, and programs, the Permittee shall submit all revisions to the Board, for approval. Any revision submission shall include a revision history table and a summary of the revisions made. The Permittee shall not implement revisions until approved by the Board. | REVISIONS |

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| 128. The Permittee shall revise any submission as per the Board's direction and resubmit it for approval. | REVISE AND RESUBMIT |
| 129. The Permittee shall revise management plans, reports, studies, and programs for Phases 1, 2, and 3 to the Board for approval. Unless otherwise specified, a minimum of 90 days prior to commencement of each phase and implementing any proposed updates or changes in the management plans, reports, studies, and programs, the Permittee shall submit all revisions to the Board, for approval. Any revision submission shall include a revision history table and a summary of the revisions made. The Permittee shall not commence activities for each phase or implement revisions until approved by the Board . | REVISE AND RESUBMIT FOR PHASE 1, 2, AND 3 |
| 130. The Permittee shall identify how an Adaptive Management framework has been incorporated in each plan and program submitted for Board approval to fulfill the Report of EA Appendix B. | ADAPTIVE MANAGEMENT |
| 131. The Permittee shall comply with the Engagement Plan , once approved, to fulfill Measure 15-1, 15-4 and Suggestion 15-4 of the Report of EA. | ENGAGEMENT PLAN |
| 132. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Engagement Plan. The Permittee shall not commence Phase 1 activities prior to Board approval. | ENGAGEMENT PLAN - REVISED |
| 133. The Permittee shall comply with the Avalanche Hazard Management Plan , once approved. The Avalanche Hazard Management Plan shall be in accordance with Report of EA Suggestion 5-1 and shall include, but not be limited to the following information for the activities associated with each phase: a) Revised avalanche hazard maps based on the detailed Winter Road and All Season Road designs; b) All measures employed to reduce avalanche associated risk to vehicles and occupants; c) A linear risk analysis, if required, as determined by the Permittee and the Independent Technical Review Panel. If it is determined that the linear risk analysis is not required, include justification; d) Details of potential impacts of avalanches on crossing structures near avalanche paths; e) Appropriate timing for annual inspection of the avalanche paths; f) Details of snowpack and weather monitoring stations to be used for assessing avalanche conditions, including but not limited to: i. Locations (provide a map); ii. Sampling duration and frequency; and iii. A mechanism for reporting results and interpretation of the data. g) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to: i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program. | AVALANCHE HAZARD MANAGEMENT PLAN |

134. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Avalanche Hazard Management Plan. The Permittee shall not commence any Phase 1 activities prior to Board approval.

**AVALANCHE HAZARD
MANAGEMENT PLAN –
REVISED**

135. A minimum of once per winter season, avalanche paths shall be observed for avalanche occurrences by an Avalanche Professional as per the approved Avalanche Hazard Management Plan. Within 60 days of completion, the Permittee shall submit the Avalanche Professional's annual avalanche path recommendations to the Board and an Inspector.

AVALANCHE PATHS

136. The Permittee shall comply with the **Geochemical Verification Program**, once approved. The Program should include, but not be limited to the following for the activities associated with each phase:

**GEOCHEMICAL
VERIFICATION
PROGRAM**

- a) Identification of monitoring (survey, sampling, testing) methods for geochemical characterization studies (Acid Rock Drainage/Metal Leaching potential) of bedrock, Borrow sources, and overburden, with supporting rationale and parameters;
- b) A summary of findings from geochemical characterization studies (Acid Rock Drainage/Metal Leaching potential) on the bedrock, borrow sources, and overburden;
- c) Monitoring locations (provide a map) for follow-up verification testing, with supporting rationale;
- d) Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
- e) Criteria for defining PAG, non-PAG and Metal Leaching materials with supporting rationale;
- f) Criteria for defining high, moderate, and low risk Waste Rock, with supporting rationale;
- g) A mechanism for reporting results and interpretation of the data;
- h) Quality assurance and quality control measures;
- i) A contingency plan in the event of increasing trends in Metal Leaching or acid generation potential; and
- j) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.

137. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Geochemical Verification Program. The Permittee shall not commence Phase 1 activities prior to Board approval.

**GEOCHEMICAL
VERIFICATION
PROGRAM – REVISED**

138. The Permittee shall comply with the **Borrow Pit Management Plan**, once approved. The Permittee shall not develop any Borrow Pit until it is approved in the Borrow Pit Management Plan. The Plan shall include, but not be limited to the following for the activities associated with each phase:

**BORROW PIT
MANAGEMENT PLAN**

- a) Details regarding the design of each Borrow Pit, including but not limited to:
 - i. Physical characteristics;
 - ii. Hydrogeological considerations (maintaining natural drainage); and
 - iii. Intended purpose of each Borrow Pit (long-term versus construction only).
- b) Rationalization for all proposed Borrow Pits, including a consideration of Permafrost conditions at each Borrow Pit;
- c) A description of efforts to reduce the number of Borrow sources;
- d) Reference to the results of the Geochemical Verification Program for each Borrow Pit, including an incorporation of any necessary mitigations;
- e) Erosion and sedimentation control details for each Borrow Pit;
- f) A schedule, including proposed sequence and timing of Borrow development; and
- g) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.

139. A minimum of 90 days prior to the development any Borrow Pit, the Permittee shall submit to the Board, for approval, a Borrow Pit Management Plan. The Permittee shall not develop any Borrow Pit prior to Board approval.

**BORROW PIT
MANAGEMENT PLAN –
REVISED**

140. The Permittee shall comply with the **Explosives Management Plan**, once approved. The Permittee shall not handle, store, or use explosives until the Board has approved the Explosives Management Plan. The Plan shall include, but not be limited to the following for the activities associated with each phase:

**EXPLOSIVES
MANAGEMENT PLAN**

- a) Mitigation approaches to be deployed in the handling, use, and storage of explosives;
- b) How the Permittee proposes to minimize nitrogen species loading to the environment;
- c) A description of the monitoring required to evaluate whether the mitigation approaches for storage, handling, and blasting procedures are effective, with rational.
- d) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.

141. A minimum of 90 days prior to handling, using or storing explosives, the Permittee shall submit to the Board, for approval, an Explosives Management Plan. The Permittee shall not handle, use, or store explosives prior to Board approval.

**EXPLOSIVES
MANAGEMENT PLAN –
REVISED**

142. The Permittee shall comply with the **Traffic Control Mitigation and Road Operations and Maintenance Plan**, once approved. The plan shall fulfill Report of EA Measure 5-2 and 15-1, and shall include, but not be limited to the following information for the activities associated with each phase:

**TRAFFIC CONTROL
MITIGATION AND ROAD
OPERATIONS AND
MAINTENANCE PLAN**

- a) Access control mitigations and how they will be managed;
- b) Information on how mine and non-mine related traffic on the road will be mitigated and managed;
- c) Mitigations to increase safety on the road with both mine and non-mine related traffic;
- d) How the Permittee will address seasonal or weather-related closure;
- e) How the Permittee plans to monitor all non-mine traffic on the road;
- f) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.

143. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Traffic Control Mitigation and Road Operations and Maintenance Plan. The Permittee shall not conduct Phase 1 activities prior to Board approval.

**TRAFFIC CONTROL
MITIGATION AND ROAD
OPERATIONS AND
MAINTENANCE PLAN –
REVISED**

144. The Permittee shall comply with the **Contaminant Loading Management Plan**, once approved. The plan shall fulfill Report of EA Measure 15-1 include, but not be limited to the following information for the activities associated with Phase 2 and Phase 3:

**CONTAMINANT
LOADING
MANAGEMENT PLAN**

- a) A plan to monitor potential impacts on vegetation and soil from contamination from spills, Concentrate loading, and road dust, including but not limited to:
 - i. Identification of monitoring methods, including parameters to be monitored;
 - ii. Rational for site selection, and final monitoring locations (provide a map);
 - iii. Vegetation and soil contaminant monitoring data from along the right-of-way to establish baseline conditions, collected prior to Phase 2;
 - iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - v. Analytical requirements;
 - vi. Quality assurance and quality control;
 - vii. A mechanism for reporting results and interpretation of the data, including baseline data; and
 - viii. Proposed control and mitigation measures.
- b) A plan to monitor dust fall and airborne particulate along the right-of-way, including but not limited to:
 - i. Identification of monitoring methods, including parameters to be monitored;
 - ii. Rational for site selection, and final monitoring locations (provide a map);

- iii. Dust fall and airborne particulate monitoring data from along the right-of-way to establish baseline conditions, collected prior to Phase 2 and compared to appropriate standards;
 - iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - v. Analytical requirements;
 - vi. Quality assurance and quality control;
 - vii. A mechanism for reporting results and interpretation of the data, including baseline data; and
 - viii. Proposed control and mitigation measures.
- c) A plan to monitor road watering and use of calcium chloride along the right-of-way, including but not limited to:
- i. Specification of where calcium chloride will be used for dust suppressant, and what the setback distance from Watercourses will be to prevent the runoff of calcium chloride into Watercourses;
 - ii. Identification of monitoring methods;
 - iii. Description of how monitoring locations will be chosen;
 - iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - v. Analytical requirements;
 - vi. Quality assurance and quality control;
 - vii. A mechanism for reporting results and interpretation of the data; and
 - viii. Proposed control and mitigation measures.
- d) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
- i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long- term monitoring program.

145. A minimum of 90 days prior to the commencement of Phase 2 activities, the Permittee shall submit to the Board, for approval, a Contaminant Loading Management Plan. The Permittee shall not conduct Phase 2 activities prior to Board approval.

**CONTAMINANT
LOADING
MANAGEMENT PLAN**

146. In conducting its activities under this Permit, the Permittee shall make every reasonable effort to consider and incorporate any scientific information and Traditional Knowledge that is made available to the Permittee.

**INCORPORATE
TRADITIONAL
KNOWLEDGE**

147. In each submission required by this Permit or any directive from the Board, the Permittee shall identify all recommendations based on Traditional Knowledge received, describe how the recommendations were incorporated into the submission, and provide justification for any recommendation not adopted, to fulfill Report of EA Measures 10-1, 15-1, 15-4, and Suggestion 15-4.

**IDENTIFY TRADITIONAL
KNOWLEDGE**