

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING, LAND AND WATER  
DAM SAFETY AND CONSTRUCTION UNIT



## Certificate of Approval to Modify a Dam

The **State of Alaska** under AS 46.17, and the regulations adopted under this statute, grants to:

### **Teck Alaska Incorporated**

The approval to modify the following structure at the **Red Dog Mine** in accordance with the terms and conditions contained in this certificate:

#### **Red Dog Tailings Main Dam (NID ID# AK00201)**

The location of this project is: S19, T30N, R18W, Kateel River Meridian

The holder of this certificate shall:

- Modify the dam and appurtenant works in accordance with construction documents listed in Attachment A.
- Except for claims or losses arising from negligence of the State, defend and indemnify the State against, and hold it harmless from any and all claims, demands, legal actions, loss, liability and expense for injury or death of persons, and damages to or loss of property, arising out of or connected with the exercise of the approval granted by this certificate.
- Comply with all applicable laws, regulations and conditions.
- Allow representatives of the Department to inspect the work and records covered by this certificate at all times determined necessary by the Commissioner.
- Follow special conditions listed in Attachment B, attached hereto and made a part hereof.



**CERTIFICATE OF APPROVAL TO MODIFY A DAM**  
**Red Dog Tailings Main Dam**

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This *Certificate of Approval to Modify a Dam* is granted subject to the pertinent statutory provisions in AS 46.15 and AS 46.17 and the Administrative Regulations in 11 AAC 93. This certificate is valid only for the time period indicated in Attachment B.

APPROVED BY: Tom Barrett C.P.G.  
TITLE: Water Section Chief  
Division of Mining, Land and Water  
SIGNATURE: Tom Barrett  
DATE: April 29, 2021

State of Alaska            )  
  ) SS.  
Third Judicial District )

This is to certify that on April 29<sup>th</sup>, 2021, before me appeared Tom Barrett, known by me to be the Authorized Representative of the Division of Mining, Land and Water, Alaska Department of Natural Resources, and acknowledged to me that this Certificate of Approval was voluntarily executed on behalf of the State of Alaska.

Christine Ballard  
Notary Public in and for the State of Alaska

My Commission expires: With Office



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**COPY**

**CERTIFICATE OF APPROVAL TO MODIFY A DAM  
Red Dog Tailings Main Dam**

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**Attachment A – Construction Documents**

**DRAWINGS**

Teck Alaska Incorporated  
Red Dog Tailings Main Dam  
Stage XI Raise Detailed Design Drawings  
Stage XI-B Full Raise to EL. 996 Ft  
Red Dog Mine, Alaska (19 Drawings)  
Marked "Issued For Construction"  
Revision 2 dated March 30, 2021

**SPECIFICATIONS**

Specifications for Construction of  
Tailings Main Dam Stage XI Raise  
Red Dog Mine – Alaska  
Marked "Issued For Raise Construction"  
Revision 2 dated March 30, 2021

**CQA PLAN**

Tailings Main Dam Stage XI Raise  
Red Dog Mine Alaska  
Construction Quality Assurance Plan  
Marked "Issued For Raise Construction"  
Revision 2 dated March 30, 2021

**End of Attachment A**

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**Red Dog Tailings Main Dam**

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**Attachment B – Special Conditions**

1. The Red Dog Tailings Main Dam (AK00201) is currently approved at a nominal crest elevation of 991 feet. This certificate approves raising the crest of the Red Dog Tailings Main Dam to the nominal crest elevation of 996 feet, to be operated as a Class I (high) hazard potential classification dam as defined in 11 AAC 93.157. The Red Dog Tailings Main Dam includes the main embankment and extended wing section on the east abutment.
2. Work on the wing dam section approved under *Certificate of Approval to Modify a Dam* FY2020-5-AK00201 may occur concurrently with the work approved in this certificate.
3. Any fill containing more than 5% fines passing the #200 sieve may not be placed under freezing conditions.
4. Any foundation area exposed under the dam or in the cut-off trenches shall be inspected and approved by a qualified geologist or geological engineer after the preparation described in Section 0200 - Excavation, of the approved construction specifications listed in Attachment A, and prior to the placement of any fill or geosynthetic materials. A geologic map containing bedrock types, fractures, faults, and other pertinent information that describes the foundation must be prepared by the qualified geologist or geological engineer, reviewed and approved by the design engineer, and included in the construction completion report required under Special Condition 7.
5. Any existing instrumentation potentially affected by this modification must be preserved and remain operational, or be replaced, unless specifically approved for removal or abandonment by the design engineer and the Department.
6. If any conditions are encountered which require substantial clarification, deviation or change in the design from the approved drawings and specifications, the clarification, deviation or change must be approved in writing by the design engineer and submitted to the Department. Any clarification, deviation or change that could affect the safety of the dam must be approved in writing by the Department before continuing that aspect of construction. The design engineer shall maintain a sequentially numbered record of all clarifications, deviations and changes in the design and construction for inclusion in the construction completion report required under Special Condition 7.
7. No water may be impounded against or tailings discharged from the raised section of the Red Dog Tailings Main Dam until a current *Certificate of Approval to Operate a Dam* is issued by the Department. The Department will issue a current *Certificate of Approval to Operate a Dam* including any other pertinent terms and conditions, upon review and approval of the following submittals:
  - Construction completion report prepared in accordance with the requirements of 11 AAC 93.171(f)(6)(A) including design change details and approvals
  - A current operation and maintenance manual prepared in accordance with the requirements of 11 AAC 93.197



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8. Notify the Department within one week after the date of substantial completion of the approved modification. Submit the post-construction documentation listed under Special Condition 8 within 60 days of substantial completion.
9. Commence construction by the first day of June of the second calendar year after the date of this certificate. If construction does not begin by this date, an updated application must be submitted in accordance with 11 AAC 93.171 for review and approval by the Department, including application fees required under 11 AAC 05.260(c).
10. By December 31, 2021, the financial assurance required by 11 AAC 93.171(f)(2)(C) and 11 AAC 93.172(a)(6)(C) must be demonstrated for the following:
  - Modification of the Red Dog Tailings Main Dam and appurtenant works to a final, post-closure operating configuration including consideration for premature closure
  - Post-closure monitoring, operation, maintenance, and inspection of the dam and appurtenant works

The specific tasks and cost estimates may be included as discrete line items in the reclamation and closure plan required under 11 AAC 97.310. The methods of financial assurance, the proposed final, post-closure configuration, the post-closure monitoring, operation, maintenance and inspection requirements, the respective cost estimates and the schedule for posting the financial assurance are subject to approval by the Department. The Department's approval may be withdrawn, and additional financial assurance may be required, if the Department determines that circumstances at the mine or otherwise so require.

**End of Attachment B**

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