

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING, LAND AND WATER

DAM SAFETY AND CONSTRUCTION UNIT



## Certificate of Approval to Operate 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 operate the following structure on the **Red Dog Creek** in accordance with the terms and conditions contained in this certificate:

### **Red Dog Tailings Back Dam (NID ID# AK00303)**

The location of this project is: S31, T31N, R18W, Kateel River Meridian

The holder of this certificate shall:

- Operate and maintain the Red Dog Tailings Back Dam and appurtenant works in accordance with accepted practice and the the document titled *2023 Dam Safety Review Report, Red Dog Tailings Storage Facility, Tailings Main Dam (NID ID#AK00201), Tailings Back Dam (NID ID#AK00303) (PSI) dated November 2023, and Red Dog Operations Tailings Storage Facility Operations, Maintenance & Surveillance (OMS) Manual (O&M Manual) dated October 11, 2024.*
- 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 that apply to the operation of this dam presented in Attachment A, attached hereto and made a part hereof.

**CERTIFICATE OF APPROVAL TO OPERATE A DAM  
Red Dog Tailings Back Dam**

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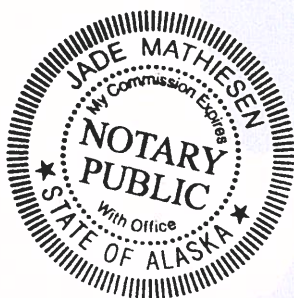
This *Certificate of Approval to Operate a Dam* supersedes any other *Certificate of Approval to Operate a Dam* for the Red Dog Tailings Back Dam and shall become invalid on the expiration date specified in Attachment A.

This *Certificate of Approval to Operate a Dam* is granted subject to the pertinent statutory provisions in AS 46.17 and the administrative regulations in Article 3 of 11 AAC 93.

APPROVED BY: Benjamin Wagner, P.E.  
TITLE: State Dam Safety Engineer  
Division of Mining, Land and Water  
SIGNATURE: *Ben Wagner*  
DATE: *December 13, 2024*

State of Alaska        )  
                                  ) SS.  
Third Judicial District )

This is to certify that on *December 13*, 2024, before me appeared *Benjamin Wagner*, 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.



*Jade Mathiesen*  
Notary Public in and for the State of Alaska  
My commission expires: *with office*

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**Red Dog Tailings Back Dam**

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**Attachment A – Special Conditions**

1. The Red Dog Tailings Back Dam is approved to operate as a Class I (high) hazard potential dam as defined in 11 AAC 93.157 at a nominal seal zone elevation of 1007.4 feet Low Distortion Projection (LDP) plus an additional 5 feet of fill for frost protection, if necessary. The maximum allowed surface water level in the tailings storage facility is elevation 1002.4 feet LDP. Tailings placed against the dam must be deposited below the seal zone elevation.
2. Operate, monitor, inspect and maintain the Red Dog Tailings Back Dam in accordance with best practices and the procedures described in the O&M Manual. Inspect the dam and appurtenant works after all significant seismic or precipitation events. Maintain records of all inspections, monitoring data, and routine maintenance.
3. Document any routine operations and maintenance procedures that deviate from or are not included in the current version of the O&M Manual. Review the O&M Manual concurrent with each Periodic Safety Inspection and revise as necessary.
4. Perform a Periodic Safety Inspection on the dam and appurtenant works as required by 11 AAC 93.159. The next Periodic Safety Inspection (PSI) is due by July 25, 2026 and must be performed by an engineer qualified in accordance with 11 AAC 93.193(b). Approval of the engineer and the scope of the inspection must be obtained from the Department in advance of the inspection. Submit the proposed scope and independent engineer 60 days prior to the scheduled date of the inspection. Submit the respective PSI report to the Department for review within 30 days of the visual inspection of the dam.
5. An annual instrumentation report shall be submitted to the Department which shall include, but not be limited to, thermistor, piezometer, inclinometer, extensometer, water level, seepage pumpback, and survey data. In addition, the report must include cross section drawings or other summary showing a history of permafrost and groundwater levels in the overburden stockpile and the dam. The report shall be in summary form and in a format approved in advance by the Department. The annual instrumentation report is due by March 31 of each year and may be included as part of the annual dam performance report required by Special Condition 6.
6. An annual dam performance report prepared by an engineer qualified in accordance with 11 AAC 93.193(b) shall be submitted to the Department by March 31 for each year during active mine operations. At a minimum, the report shall include:
  - the findings of a visual inspection of the dam when it is clear of snow
  - photographs of key features of the dam and appurtenant works and other observations during the visual inspection

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**Red Dog Tailings Back Dam**

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- a review and evaluation of routine inspection and maintenance reports
- a review and evaluation of monitoring data included in the instrumentation report required under Special Condition 5 and any additional monitoring data available at the time of the site visit

The report shall be in summary form and in a format approved in advance by the Department. This requirement is waived for each year that a PSI is conducted, but the PSI must include the above listed information in addition to meeting the other requirements of 11 AAC 93.159. This report may be prepared by the engineer of record.

7. An Emergency Action Plan (EAP) shall be maintained for dams at the Red Dog Mine in accordance with the requirements of 11 AAC 93.164. The EAP shall be reviewed, exercised, and revised in accordance with the following schedule:

<u>Frequency</u>	<u>Action</u>
Annually	Internal review
Annually	Orientation exercise with all responsible parties
Annually	Revise as needed and distribute updated pages
Biennially	Drill exercise (internal responsible parties)
Triennially	Table top exercises with all responsible parties
Triennially	Revise and distribute to all responsible parties

The drill exercise is not required in the same year as the table top exercise. EAP exercises must include responsible parties listed in the plan and as indicated in the schedule. Provide written notice to the Department within 14 days after all EAP exercises.

8. Notify the Department immediately if the EAP is activated, or within 24 hours for any significant problems that may develop which could affect the safety of the dam. An incident report shall be completed and submitted to the Department in accordance with 11 AAC 93.177 within 14 days after the conclusion of the incident.
9. An application for a certificate of approval must be submitted to the Department for any modifications, including raising the dam and mine closure modifications; or major repairs that may affect the safety of the dam; or for removal or abandonment of the dam; or for transfer of ownership during mine operations.
10. By September 23, 2026, 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:

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- Modification of the Red Dog Tailings Back 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.

11. This *Certificate of Approval to Operate a Dam* expires on September 23, 2026.

**End of Attachment A**