

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 **Red Dog Creek** in accordance with the terms and conditions contained in this certificate:

Red Dog Mine Water Diversion Dam (NID ID#AK00260)

The location of this project is: T31N, R18W, S19, Kateel River Meridian

The holder of this certificate shall:

- Operate and maintain the Red Dog Mine Water Diversion Dam and appurtenant works in accordance with accepted practice and the documents titled: *Red Dog Operations Mine Water Diversion Dam, Operations, Maintenance & Surveillance (OMS) Manual (O&M Manual)*, dated November 11, 2024; and *2024 Dam Safety Review Report Mine Water Diversion Dam (NID ID#AK00260), Red Dog Mine, Northwest Arctic Borough, Alaska*, dated October 2024.
- Except for claims or losses arising from the 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 Mine Water Diversion Dam

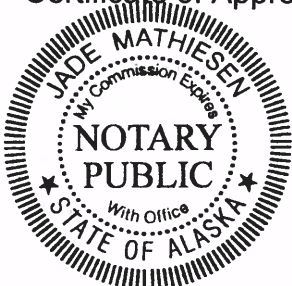
This *Certificate of Approval to Operate a Dam* supersedes any other *Certificate of Approval to Operate a Dam* for the Red Dog Mine Water Diversion Dam and shall become invalid on the expiration date specified in Attachment A. A new certificate shall be issued with revised special conditions based on information contained in the subsequent Periodic Safety Inspection Report approved by the Department, and dam safety regulatory standards current at the time of the inspection.

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 20, 2024*

State of Alaska)
) SS.
Third Judicial District)

This is to certify that on December 20, 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*

CERTIFICATE OF APPROVAL TO OPERATE A DAM
Red Dog Mine Water Diversion Dam

Attachment A – Special Conditions

1. The Red Dog Mine Water Diversion Dam (AK00260) is approved to operate as a Class III (low) hazard potential dam as defined in 11 AAC 93.157 at a nominal crest elevation of 843.2 feet LDP coordinate system.
2. Operate, monitor, inspect and maintain the Red Dog Mine Water Diversion 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. Before this Certificate expires, complete the following work recommended in *2024 Dam Safety Review Report Mine Water Diversion Dam (NID ID#AK00260), Red Dog Mine, Northwest Arctic Borough, Alaska*, dated October 2024:
 - Develop a complete design basis report for the Mine Water Diversion Dam that summarizes and consolidates the historical design, construction, and operational documentation for the dam.
 - Review the updated ground motions included in the 2023 probabilistic seismic model for Alaska and evaluate if updates seismic analyses should be conducted for the Mine Water Diversion Dam for an MDE ground motion with a return period of 1,000 to 2,500 years.
 - Re-evaluate the hydrologic inputs and hydraulic modeling for the spillway and downstream Red Dog Diversion channel. The erodibility of the spillway and the Red Dog Diversion channel should be evaluated in the analysis.
5. An annual instrumentation report shall be submitted to the Department which shall include but not be limited to, piezometer, seepage, water level, and survey data. 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 an annual dam performance report.
6. Perform a Periodic Safety Inspection (PSI) on the dam and appurtenant works as required by 11 AAC 93.159 by June 24, 2029. The frequency for the PSI shall be in accordance with 11 AAC 93.159(a). The PSI 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

CERTIFICATE OF APPROVAL TO OPERATE A DAM
Red Dog Mine Water Diversion Dam

in advance of the inspection. Submit the proposed scope and qualified engineer at least 60 days prior to the scheduled date of the inspection.

6. Notify the Department 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.
7. For any modifications, major repairs, removal, abandonment of the dam, or transfer of ownership, an application for a certificate of approval must be submitted to the Department.
8. This *Certificate of Approval to Operate a Dam* expires on August 23, 2029

End of Attachment A