

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING AND WATER MANAGEMENT

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:

Fairbanks Gold Mining, Inc

The approval to construct the following structure on **Barnes Creek** in accordance with the terms and conditions contained in this certificate:

Barnes Creek Heap Leach Pad Dam (NID ID#AK00315)


The location of this project is: T2N, R2E, Sections 8, 9, 16 & 17 Fairbanks Meridian

The holder of this certificate shall:

- ☐ Modify the dam and appurtenance works in accordance with the construction documents approved by the Department concurrent with this certificate and 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 that apply to the modification and operation of this dam as found in Attachment B, attached hereto and made a part hereof.

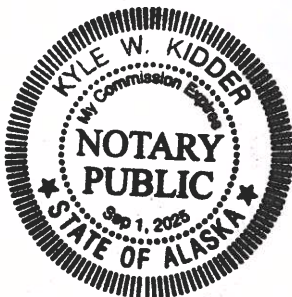
CERTIFICATE OF APPROVAL TO MODIFY A DAM
Barnes Creek Heap Leach Pad Dam

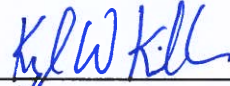
This *Certificate of Approval to Modify a Dam* is granted subject to the pertinent statutory provisions in AS 46.17 and the Administrative Regulations in Article 3 of 11 AAC 93. This certificate is valid only for the time period indicated in Attachment B.

APPROVED BY: Benjamin Wagner, P.E.
TITLE: State Dam Safety Engineer
Division of Mining, Land and Water
SIGNATURE: 
DATE: July 14, 2022

State of Alaska)
) SS.
Third Judicial District)

This is to certify that on July 14, 2022, before me appeared Benjamin Wagner, known by me to be the Director or Authorized Representative of the Dam Safety and Construction Unit 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.




Notary Public in and for the State of Alaska
My Commission expires: Sept. 1, 2025

**CERTIFICATE OF APPROVAL TO MODIFY A DAM
Barnes Creek Heap Leach Pad Dam**

Attachment A – Approved Construction Documents

DRAWINGS

Fairbanks Gold Mining, Inc Fort Knox Project
Barnes Creek Heap Leach Facility Final Design
Marked "Issued for Construction"
28 drawings listed on cover sheet and index drawing dated April 2, 2021.

SPECIFICATIONS

Fairbanks Gold Mining Inc.
Barnes Creek Heap Leach Facility
Technical Specifications for Earthwork and Pipework
Final Design
Marked "Issued For Construction"
Revision 2 dated April 23, 2021

Fairbanks Gold Mining Inc.
Barnes Creek Heap Leach Facility
Technical Specifications for Geosynthetics
Final Design
Marked "Issued For Construction"
Revision 1 dated April 2, 2021

CONSTRUCTION QUALITY ASSURANCE/QUALITY CONTROL

Fairbanks Gold Mining Inc.
Barnes Creek Heap Leach Facility
CQA/QC Manual
Final Design
Marked "Issued For Construction"
Revision 2 dated April 23, 2021

End of Attachment A

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Barnes Creek Heap Leach Pad Dam

Attachment B – Special Conditions

1. This certificate approves the construction of the Barnes Creek Heap Leach Pad (HLP) and Dam approved for construction under *Certificate of Approval to Construct a Dam* number FY2018-1-AK00315, originally based on the existing Conveyor Crossing embankment originally approved for construction as a dam in the *Certificate of Approval to Construct a Dam* for the Fort Knox Tailings Storage Facility dated February 14, 1994. The controlling crest elevation of the Barnes Creek HLP Dam is nominal elevation 1545 feet as indicated in the drawings referenced in Attachment A. This *Certificate of Approval to Modify a Dam* authorizes construction of the heap leach pad up to and including Stage 6 as shown on various drawings referenced in Attachment A.
2. The Barnes Creek Heap Leach Pad Dam is to be operated in accordance with the requirements of Article 3 of 11 AAC 93 as a Class III (low) hazard potential classification dam as defined in 11 AAC 93.157.
3. An annual work plan shall be submitted to the Department no later than January 31 of each year scheduled for construction activity. The annual work plan must include:
 - the most current revisions of the construction documents listed in Attachment A;
 - the certified cost estimate and application fee supplement for the annual work required by 11 AAC 93.171(f)(4)(D) and (E);
 - a schedule for construction that includes all major components of the dam, heap leach pad and appurtenances including but not limited to: borrow source investigations, testing and evaluations; excavation, grading, and fill; drainage material, pipe and geosynthetic materials installation; diversion ditches, spillways and other appurtenant features; as well as any mandatory inspection points that must be completed before additional construction occurs.
4. All work associated with the construction of the dam, heap leach pad and appurtenances must be observed and inspected in accordance with the project construction quality assurance/quality control plan by an engineer qualified in accordance with 11 AAC 93.193(c), for compliance with the approved plans, drawings and specifications, and for developing the construction completion report required under Special Condition 8.
5. 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 responsible for certifying those drawings 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 8.
6. In order to prevent the potential propagation of tears in the geomembrane liner, a stress relief circle at least 1 inch in diameter must be cut at the end of all fish mouth repairs, straight cuts or tears in existing or new geomembrane, prior to any final placement of patches for repair, including portions of geomembrane within an anchor trench. Submit a design modification from the engineer to ensure installation contractor is aware of this requirement before 2 weeks prior to the beginning of each year of construction.

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7. Prior to loading ore on recently constructed areas of the heap leach pad, submit a letter of substantial completion from the qualified engineer indicated under Special Condition 4 certifying the work was conducted in compliance with the approved plans, drawings and specifications.
8. Submit a construction completion report within approximately 30 days of the final substantial completion of each stage of the heap leach pad. The construction completion report shall include, but is not limited to: results of borrow pit investigations and evaluations for all fill including prepared subbase material, if used; brand names and locations of geomembrane and geosynthetic clay liner used in construction; progressive construction photographs; field and laboratory test results and summaries correlated to the quantities and descriptions of the various materials used in the construction; updates of stability and deformation analyses, if test results for materials are weaker than previous analyses; descriptions of unexpected conditions, design clarifications, deviations and changes; and, record drawings certified by an engineer qualified in accordance with 11 AAC 93.193(c).
9. A *Certificate of Approval to Operate a Dam* is required prior to leaching ore that may be loaded as provided under Special Condition 7. A *Certificate of Approval to Operate a Dam*, including any pertinent terms and conditions, will be issued by the Department upon review and approval of the following submittals:
 - ☐ The substantial completion letter(s) described in Special Condition 7;
 - ☐ Drawings clearly indicating the requested change in operating limits;
 - ☐ A current operation and maintenance manual prepared in accordance with the requirements of 11 AAC 93.197 including instrumentation monitoring and maintenance instructions, a description of unusual conditions and contingency procedures.
10. Financial assurance required by 11 AAC 93.171(f)(4)(F) must be demonstrated to the satisfaction of the Department in the next reclamation plan approval after the date of this certificate, as required under AS 27.19.
11. This *Certificate of Approval to Modify a Dam* supersedes *Certificate of Approval to Modify a Dam FY2021-26-AK00315*.

End of Attachment B