



MINE PERMITTING ANCHORAGE

550 West 7th Avenue, Suite 900B
Anchorage, AK 99501
Main: 907.269-8647
Fax: 907-8949
dnr.anc.mining@alaska.gov

MINE PERMITTING FAIRBANKS

3700 Airport Way
Fairbanks, Alaska 99709
Main: 907.458-6896
Fax: 907.451-2703
dnr.fbx.mining@alaska.gov

Pogo Mine Inspection Report

Inspection Date: September 3, 2024
Time: 10:00AM to 3:45PM
Weather: Sunny, slight breeze, high overcast, 65°F
Agency Personnel: DNR: Elizabed Angel, Jesse Garnett White, and William Groom
Operator Contacts: Pogo: Russell Gossett, Nathan Kehoe, and Kate Clancy
Inspection Objectives: Site Inspection

Operations:

Pogo Mine is an underground gold mine located on land owned by the State of Alaska 38 miles northeast of Delta Junction and 88 miles east-southeast of Fairbanks on the western edge of the Goodpaster Mining District. Mine access is from the Richardson Highway via a 49-mile all-season road. The mining method used is underground long-hole open-stope cut-and-fill operation using gravity concentration, flotation, and Carbon-in-Pulp (CIP) process to recover gold ¹.

Field Inspection Plan, Execution and Summary Schedule:

The Alaska Department of Natural Resources (DNR) primary objectives for the field inspection were to inspect active disturbance including the Dry Stack Tailings Facility (DSTF), 1380 Area, and water management (Off River Treatment Works – ORTW and various Outfalls).

DNR staff arrived at the site at 10:00am. Russell Gossett was there to meet DNR staff and discuss the field inspection objectives. It was decided that the inspection plan was to cover the surface footprint from the upper reaches of the DSTF to the ORTW and Goodpaster River. Afterwards, DNR Staff had a short meeting with Russell Gossett, Nathan Kehoe, and Kate Clancy to discuss the inspection.

The inspection of the Pogo Mine (Maps 1-4) would begin at the DSTF. From there, DNR Staff traveled to the Recycle Tailings Pond (RTP), 1380 Area, and Inlet and Mixing ponds of the ORTW. Staff also visited Outfall 002 - Sewage Plant Discharge, and Food Waste Storage and Kinetic Testing Area (KTA). A drone was utilized to document all interested areas except for Outfall 002 and the KTA due to helicopter traffic.

Findings:

A summary of findings can be found below with a description of active sites that were visited. Detailed route maps with areas of interest, including photos of all inspected sites with observations notes, are in Appendix A. Please note that North arrows in Appendix A photos are approximate and not precise.

¹ Northern Star Resources, (2023), *Revisions to Documents in Support of Renewal of Northern Star Resources (Pogo) LLC's Plan of Operations*, Northern Star Resources.

1. Inspection of Active Areas of Disturbance

- 1.1. Dry Stack Tailings Facility: The DSTF (Photos 1-3) is an area where approximately 40% of all mineralized waste rock and dewatered flotation tailings are disposed, the remainder is placed underground as paste backfill. There are a few flow-through drains at the DSTF and surrounding the general placement are diversion ditches located above the perimeter to prevent runoff from entering the facility. Tailings and mineralized development rock are co-disposed year-round in the general placement area. The mineralized rock is encapsulated in the tailings to minimize the oxidation of any sulfide minerals present. At the time of inspection, the DSTF was in good condition.
- 1.2. Recycle Tailings Pond and Dam: The RTP and RTP Dam (Photos 4-6) are located just downstream from the DSTF to collect any potential seepage. At the time of inspection, the water storage was at a normal level. The spillway was well above the water level and free of any major or obvious debris.
- 1.3. 1380 Area: At the time of inspection, the 1380 Area was in its initial construction phase with only a pad being cleared to the location (Photos 7-11). There will be two portals in the 1320 Area, one for intake and another for exhaust.
- 1.4 Food Waste Storage and Kinetic Testing Area (Photos 16-19). DNR Staff visited the KTA for discussion of the process, sampling methods and periodicity, and time involved for data due to precipitation rates in the area.

2. Water Management

- 2.1. Inlet and Mixing Ponds (Off-River Treatment Works (ORTW)): At the northern end of the mine DNR Staff observed the ORTW (Photos 12-14). The inlet pond has connectivity with the Goodpaster River, which pumps fresh water into the mixing pond via a pump station. The ORTW pump station has a mixing chamber where effluent water from the treatment plant mixes with fresh water before discharging into the mixing pond. The mixing pond serves as a final zone where larger suspended particles from treated waters may precipitate out before reaching the outfall. Water from the outfall discharges back into the Goodpaster River. The ORTW was operating as designed at the time of inspection.
- 2.2. Outfalls: Outfall 001 (Photo 14) and Outfall 002 were operating normally at the time of inspection.

Violations:

All observed activities followed Northern Star Resources Ltd. Plan of Operations and Reclamation Plan Approvals (F20249500POOA and F20249500RPA).

Conclusion and Recommendations:

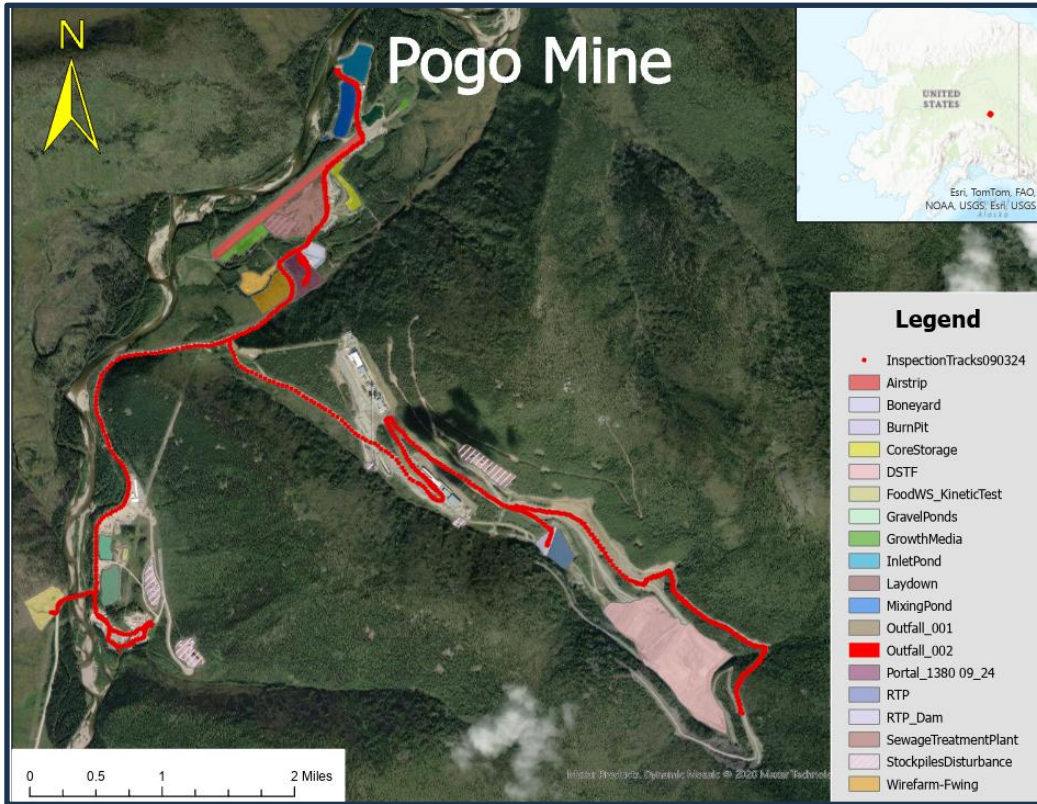
ADNR finds the mining operations at Pogo mine in good condition and consistent with industry standards. The operator facilitates activities in a manner which prevents unnecessary and undue degradation of State land and water resources and is responsive to requests made by the department.

Report prepared by: Elizabeth Angel and Jesse Garnett White

Cc: Kate Harper (DNR), James Hyun (DNR), Steve Buckley (DNR), William Groom (DNR), Allan Nakanishi (DEC), Tim Pilon (DEC), Ben Wagner (DNR), Kindra Geis (DNR), Carolyn Curley (DNR), Aaron Kruse (DNR), Audra Brase (ADF&G), Russell Gossett (Northern Star).

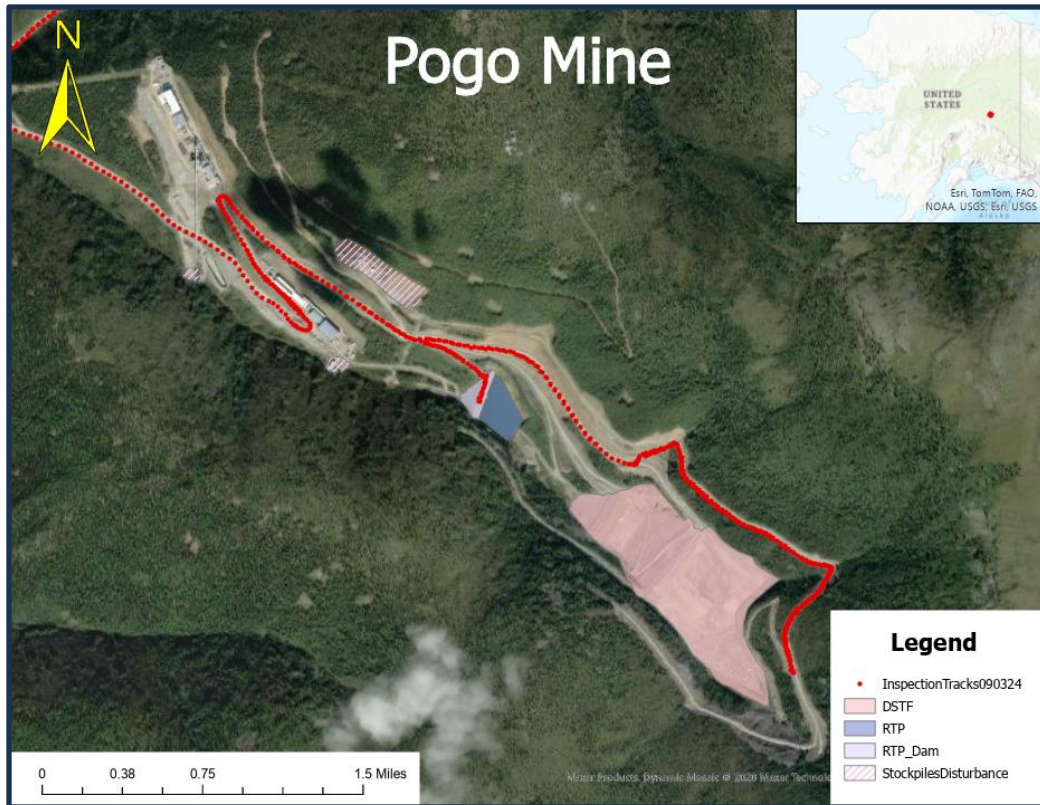
Appendix A

Inspection Maps and Observations of Note



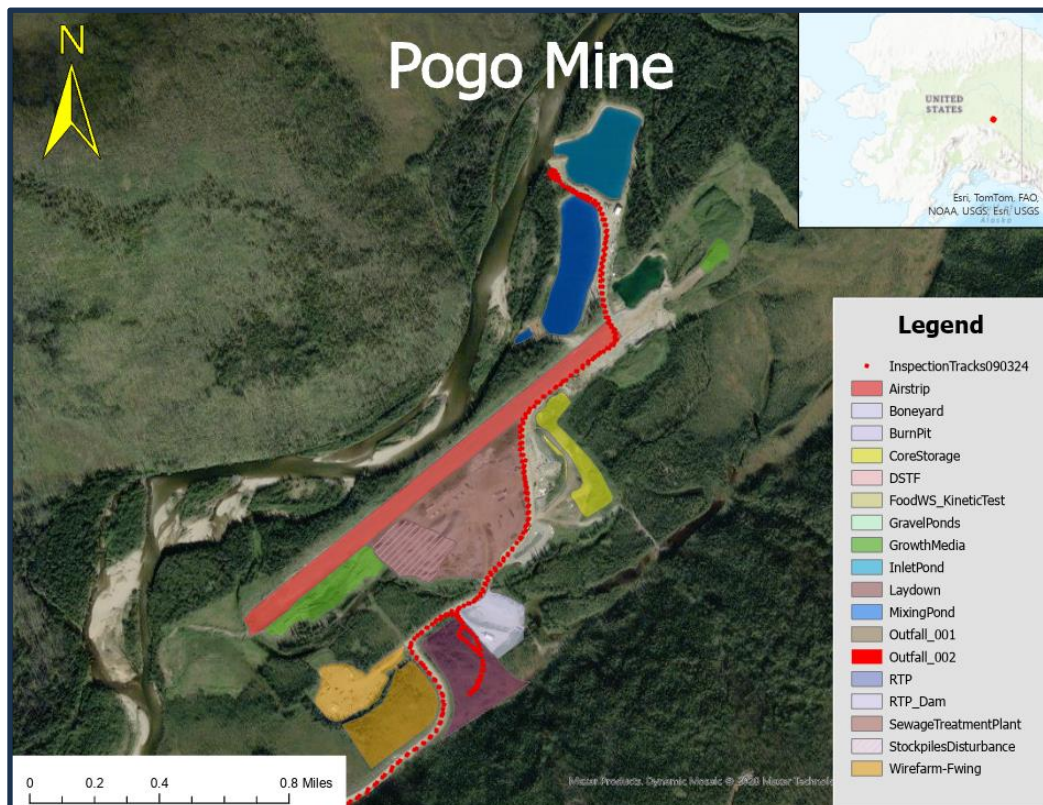
Map 1: Pogo Mine 09/2024 Inspection Route and Locations of Various Sites.

Note: DSTF - Dry Stack Tailings Facility, RTP – Recycle Tailings Pond.

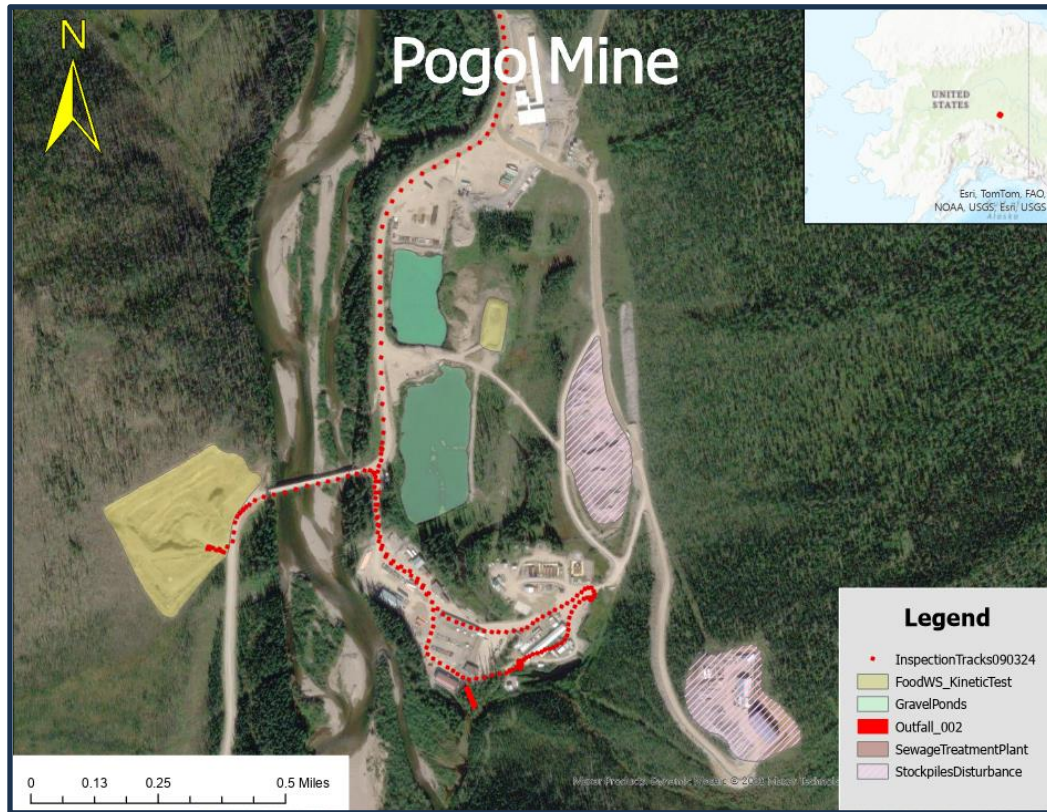


Map 2: Pogo Mine 09/2024 Inspection and Various Sites

Note: DSTF - Dry Stack Tailings Facility, RTP – Recycle Tailings Pond.



Map 3: Pogo Mine 09/2024 Inspection Route and Locations of Various Sites.



Map 4: Pogo Mine 09/2024 Inspection and Various Sites.

Field Inspection Observations

Photo 1: Dry Stack Tailings Facility (DSTF). View from the upper DSTF looking at the expansion extents down valley towards the Recycle Tailings Pond (RTP). Note the locations of the north and south diversion ditches.



Photo 2: Another view of the DSTF including top and upper shell. Red dots mark areas of Flow Through Drains.



Photo 3: Another view of the DSTF shells from above the RST. Note the Stilling Basin center bottom right of the photo.



Photo 4: RTP and RTP Dam. Upper Camp in the background. RTP Water levels had significantly increased from prior inspection in June 2024.

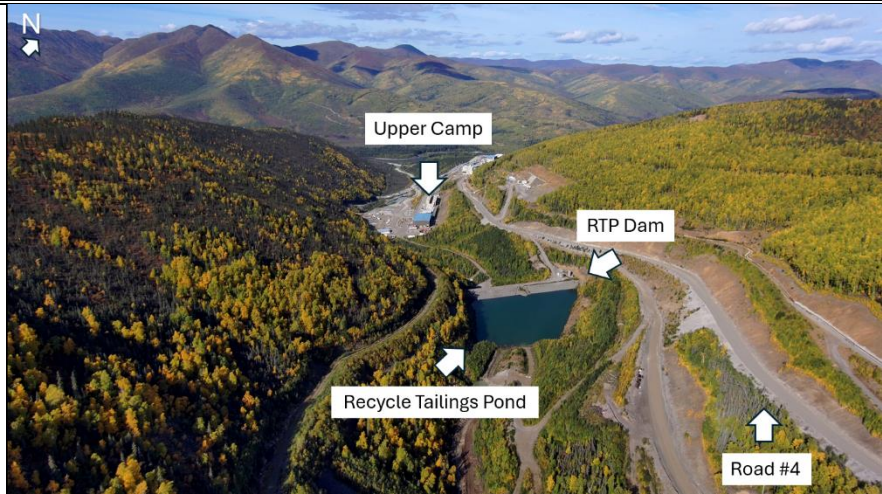


Photo 5: Another view up valley of the RTP and RTP Dam. Shells of the DSTF in the background. Note vehicles for scale on the top of the dam and spillway on the right side of the photo.



Photo 6: View of RTP Dam and water level. Note RTP Head Tanks in the upper right corner.



Photo 7: Location of 1380 Area as seen from above the ORTW. The 1380 Area will have two portals, one for intake and the other for exhaust.



Photo 8: View of 1380 Area progress including locations of Intake and Exhaust portals. Boneyard to the left.



Photo 9: Another view of 1380 Area. Wire Farm and F-Wing to the right.



Photo 10: A different view of 1380 Area and location of the Exhaust Portal.



Photo 11: 1380 Area location of the Intake Portal.



Photo 12: ORTW Inlet and Mixing ponds and Goodpaster River.



Photo 13: Another view of the Inlet and Mixing ponds and Goodpaster River.

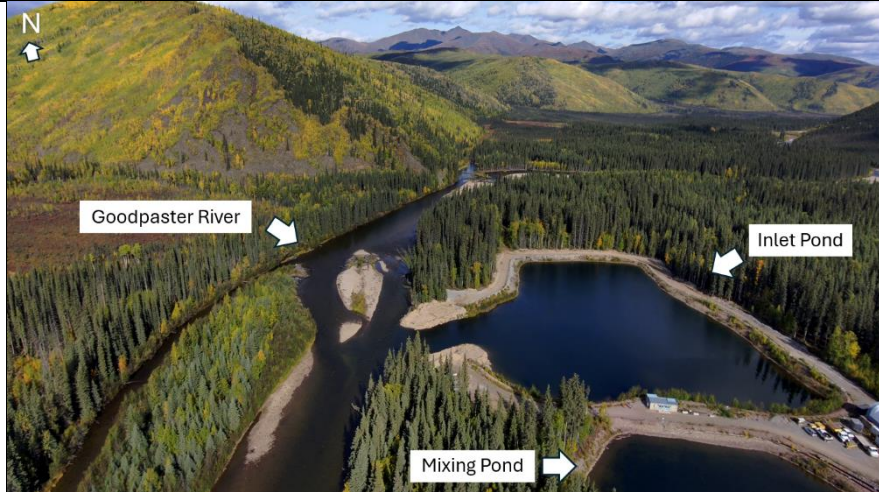


Photo 14: Location of Outfall 001 and view of the Inlet and Mixing ponds and Goodpaster River. The pond to the center right of the photo is/was the Airstrip Borrow Source.



Photo 15: View of Outfall 002.



Photo 16: Food Waste Storage and Kinetic Testing Area. Fence is electrified to keep wildlife from entering the area.



Photo 17: Food Waste Storage and Kinetic Testing Area with view of food waste storage containers.



Photo 18: Food Waste Storage and Kinetic Testing Area with view of Barrel Tests.



Photo 19: View of Barrel Tests sample.

