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Pogo Mine Inspection Report

Inspection Date: June 04, 2024
Time: 9:00AM to 4:30PM
Weather: Mostly sunny, High clouds
Agency Personnel: DNR: Jesse Garnett White, William Groom, and Jackie Cheek
DEC: Tim Pilon
Operator Contacts: Pogo: Russel Gossett, Wendie MacNaughton, and Matt Drews
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, Alaska, 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), New Portal 1380, and water management (Off River Treatment Works – ORTW).

DNR staff arrived at 9:00am where we met with Mr. Russell Gossett to discuss the field inspection objectives. It was decided that the inspection of the Pogo Mine (Maps 1-3) would begin at DSTF. From there, DNR Staff traveled to the Recycle Tailings Pond (RTP), 1380 Area, and the inlet and mixing ponds of the ORTW.

Afterwards, DNR Staff had a short meeting with Russell Gossett, Wendie MacNaughton, and Matt Drews to discuss the inspection.

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 photographs 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 1-5) is an area where approximately 40% of all mineralized waste rock and dewatered flotation tailings are disposed, the remainder is placed underground as a paste backfill. There are a few flow-through drains at the DSTF and surrounding the general placement is a diversion ditch located above the perimeter to prevent runoff from entering the facility. At the time of inspection, the DSTF was in good standing. 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 5-7) are located just downstream from the DSTF to collect any potential seepage. At the time of inspection, the water storage was below normal level. The spillway was well above the water level and free of any major or obvious debris.
- 1.3. New Portal (1380): At the time of inspection the portal was in its initial construction phase with only a pad being cleared to the location (Photos 8-10).

2. Water Management

- 2.1. Inlet and Mixing Ponds (Off-River Treatment Works (ORTW)): At the northern end of the mine is the ORTW consisting of two ponds (Photos 11-13). 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. At the time of inspection, the ORTW was operating normally.
- 2.2. Outfall 001: The outfall (Photo 13) was 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:

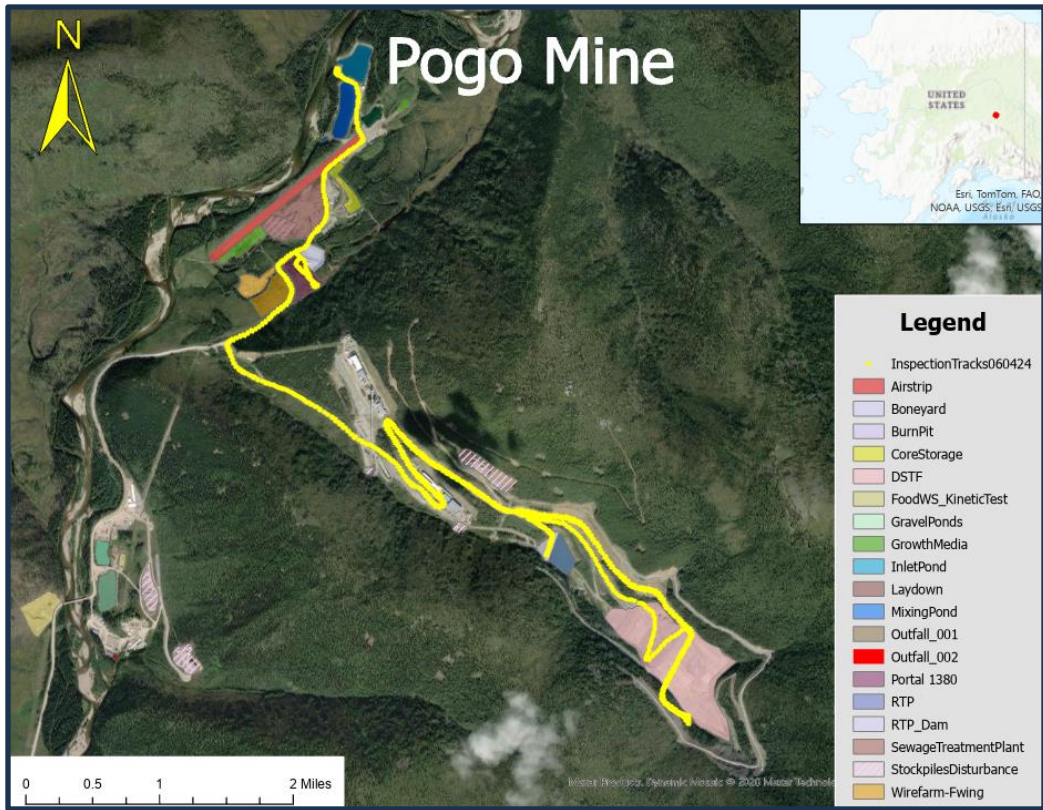
DNR finds the mining operations at Pogo Mine in good condition and is consistent with industry standards. The operator facilitates activities in a manner which prevents unnecessary and undue degradation of State land and water resources and is responsive to requests made by the department.

Report prepared by: Jesse Garnett White

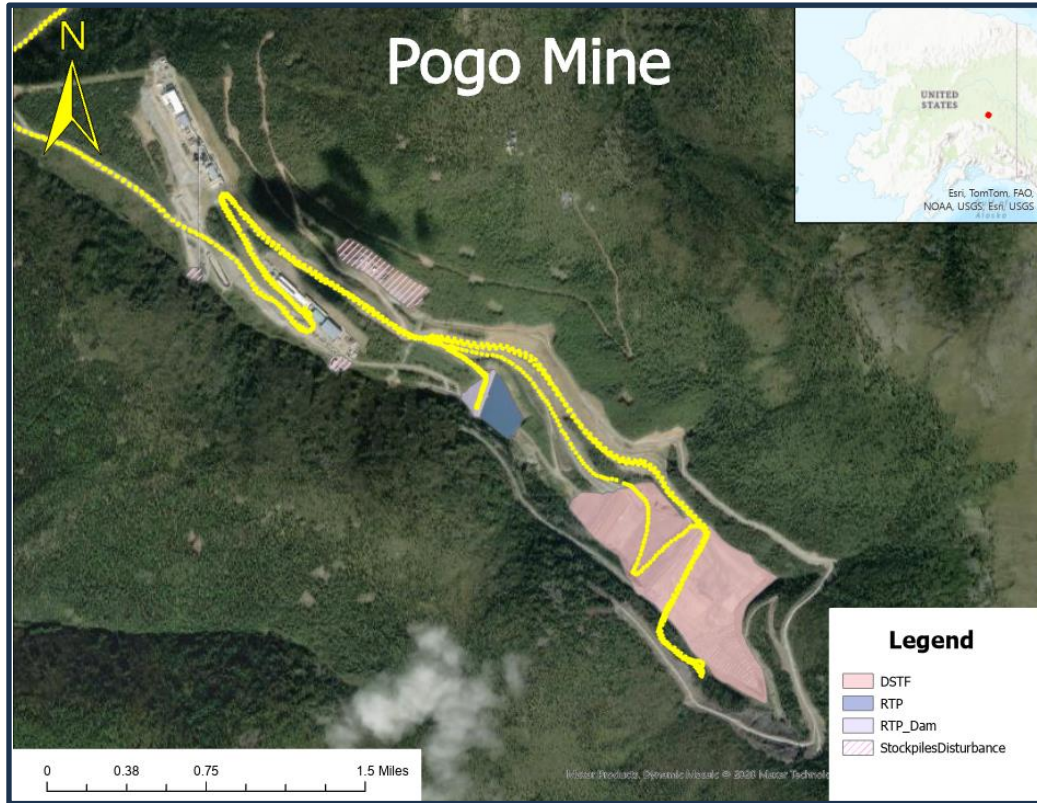
Cc: Kate Harper (DNR), James Hyun (DNR), Steve Buckley (DNR), William Groom (DNR), Allan Nakanishi (DEC), Tim Pilon (DEC), Ben Wagner (DNR), Kindra Geis (DNR), Carolyn Curley (DNR), Aaron Kruse (DNR), Audra Brase (ADF&G), Russell Gossett (Northern Star).

Appendix A

Inspection Maps and Observations of Note

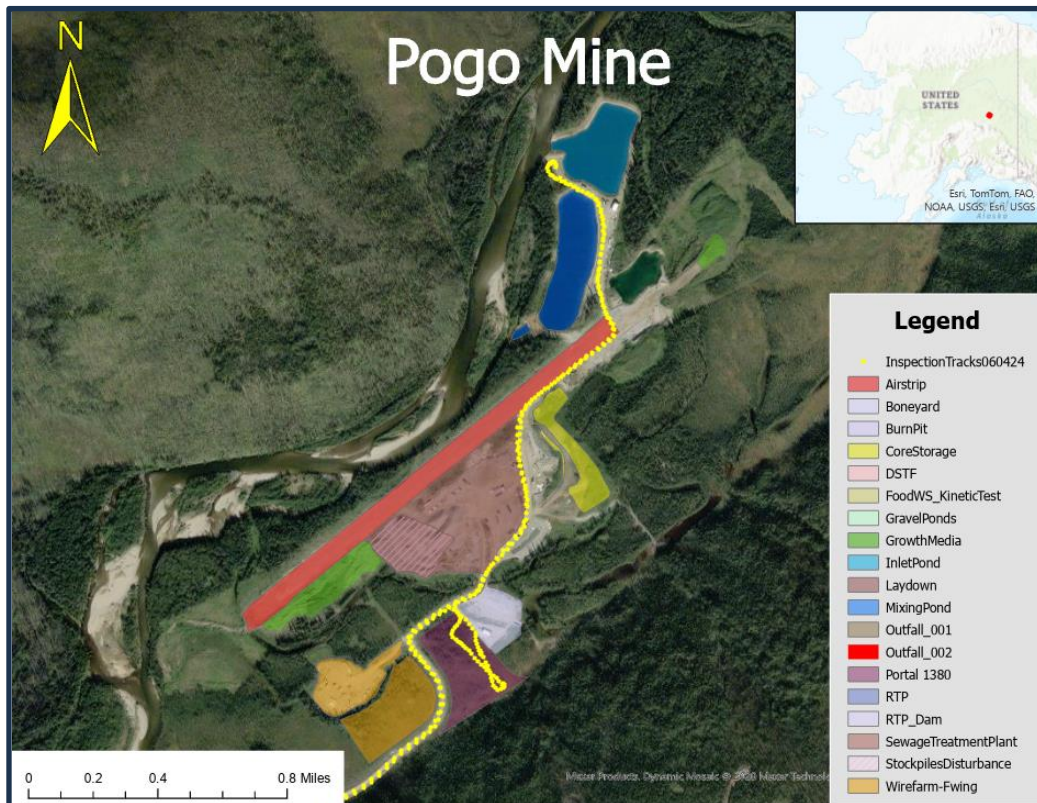


Map 1: Pogo Mine 06/2024 Inspection. Note: DSTF - Dry Stack Tailings Facility, RTP – Recycle Tailings Pond.



Map 2: Pogo Mine 06/2024 Inspection.

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



Map 3: Pogo Mine 06/2024 Inspection and Various Sites.

Field Inspection Observations

Photo 1: Dry Stack Tailings Facility (DSTF). View from the upper DSTF looking at the expansion extents.



Photo 2: Another view of the DSTF. Red dots mark areas of Flow Through Drains.



Photo 3: A down valley view of the DSTF. Note the levels of tiered development and shells on the front leading to the toe.



Photo 4: Another view of the DSTF tiered development and shells from above the RST.



Photo 5: DSTF, RTP, and RTP Dam. Note the low water level behind RTP.



Photo 6: Another view of the RTP and RTP Dam. Note vehicles for scale on the top of the dam, RTP Head Tanks to the left and spillway on the right.



Photo 7: Down valley view of the RTP and RTP Dam. Note the location of Upper Camp.



Photo 8: Location of 1380 Area as seen from above the ORTW.



Photo 9: New 1380 Area access pad.

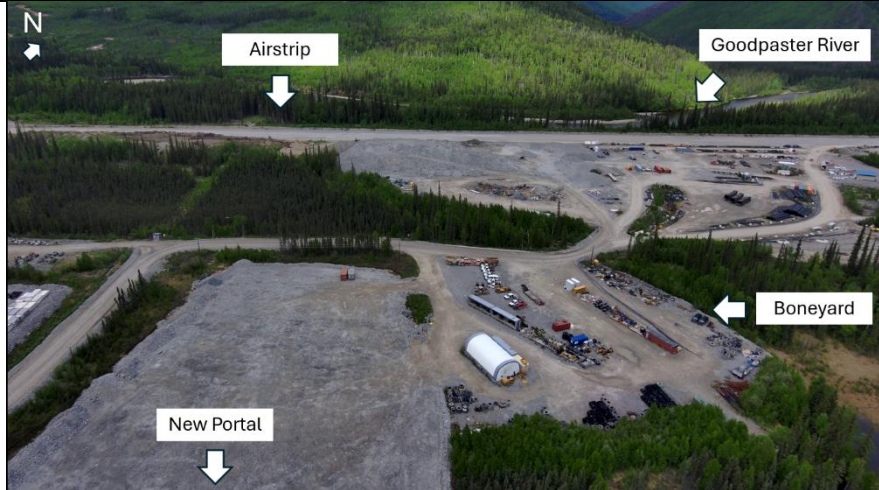


Photo 10: Another view of the 1380 Area access pad where it meets the slope of the hill. Note truck for scale.



Photo 11: ORTW Inlet and Mixing ponds and Goodpaster River.

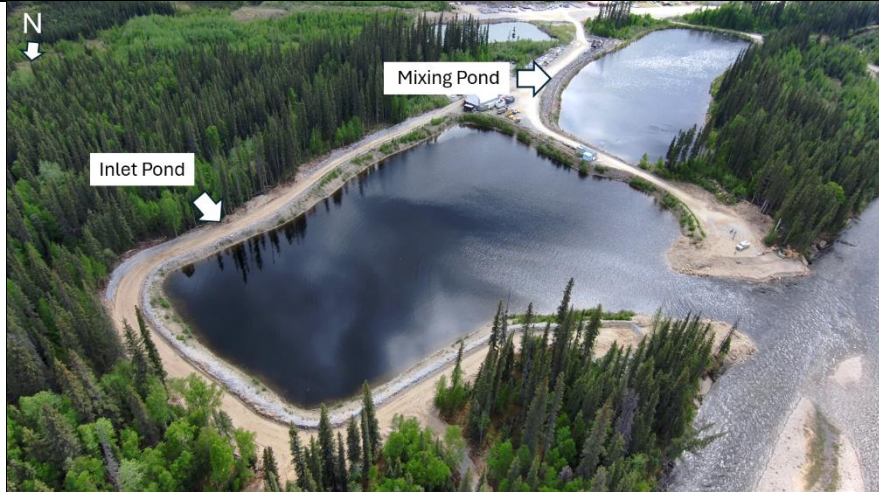


Photo 12: Another view of the ORTW Inlet and Mixing ponds and Goodpaster River.



Photo 13: Location of Outfall 001 in relation to the Mixing Pond and Goodpaster River.

