THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources
DIVISION OF MINING, LAND & WATER
Mining Section
Northern Office

3700 Airport Way
Fairbanks, Alaska 99709-4699
Main: 907.451.2736
TTY: 711 or 800-770-8973
Fax: 907.451.2703

Gil Satellite Mine and Fort Knox Inspection Report

Inspection Dates: Gil June 5 and Fort Knox June 6, 2024.

Weather: June 5: Mostly Cloudy with Increasing Threat of T-Storms ~70°F. Visible distant darkening clouds, virga, rainfall, and cloud to ground lightning. June 6: Mostly to Partly Cloudy with visible distant rainfall ~70°F.

Time of Inspections: June 5: 10:00 AM to 2:30 PM. June 6: 10:00 AM to 3:00 PM.

Operator Contact: June 5: Edmond Pakee and Jesse Dunshie. June 6: Brent Culleton, Ruby Campbell, and Bartley Klevin

Agency Personnel: Jesse White, Aaron Kruse, Stephen Buckley, Aleria Knudson, and Amber Rhodes

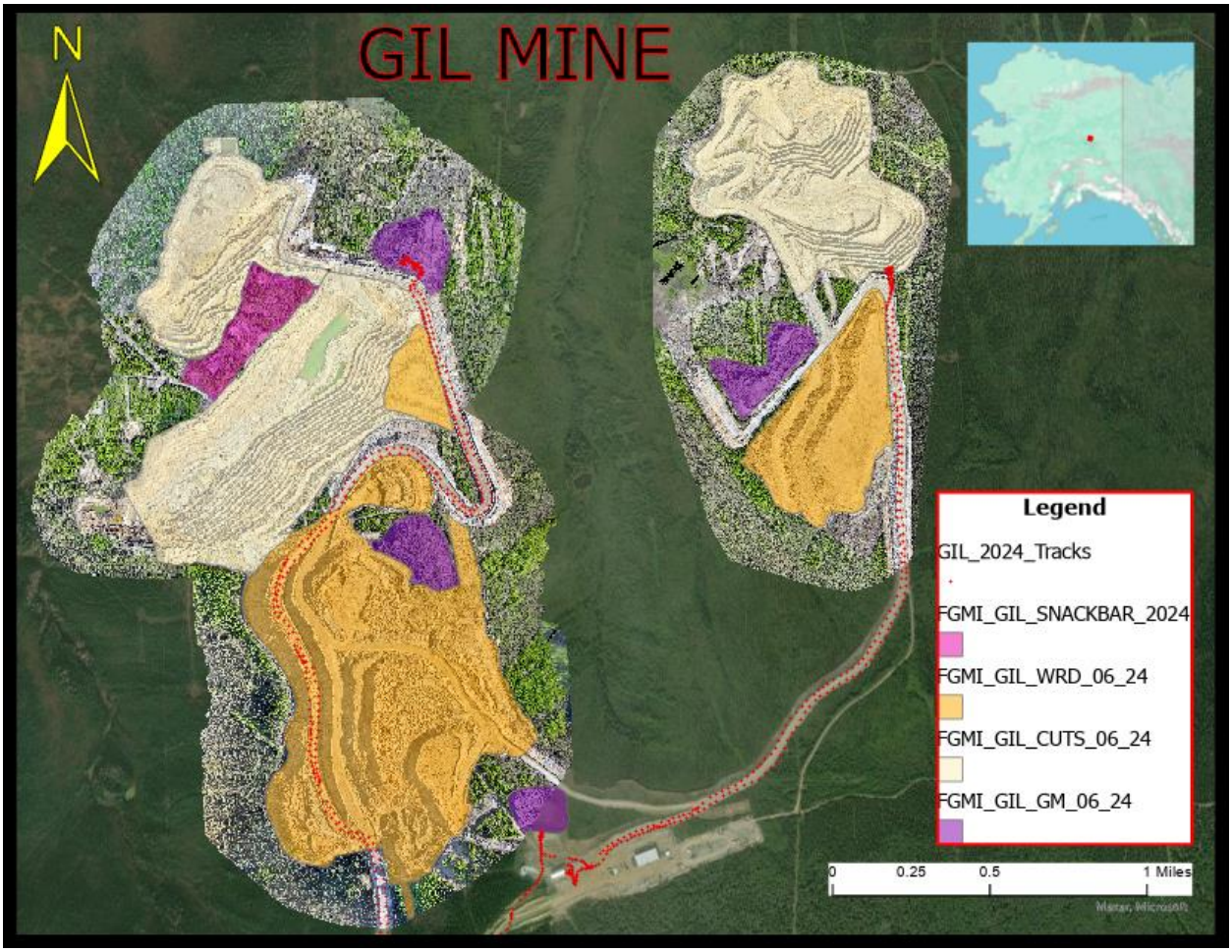
Inspection Objectives

The DNR Mining Section (Large Mines Permitting Team) conducted a site inspection of operations at the Gil satellite and Fort Knox mine sites for compliance with the Plan of Operations and Reclamation Plan Approvals. Anchorage mining section staff were also in attendance. The inspection focused on active mining disturbance and water management. Both Fort Knox and Gil Satellite mines are operated by FGMI, a wholly owned subsidiary of Kinross Gold USA, Inc. The Fort Knox Mine Reclamation Plan Approval (No. F20209852RPA) initially issued March 25, 2020 was amended to include Gil and is effective through March 24, 2025. FGMI submitted an approved Reclamation Closure Plan (RCP), which includes the estimated costs associated with reclamation and closure of the Fort Knox Mine. The RCP describes the procedures and processes to return land disturbed by mining operations to State standards outlined in 11 AAC 97. Drone operations were used to capture imagery of disturbance.

Gil Satellite Mine

The Gil Satellite Mine is located approximately 26 road miles northeast of Fairbanks and 10 miles east of the Fort Knox Mine and is accessed via Fort Knox Mine. The deposit is mined by conventional open-pit methods on a year-round basis, seven days per week. The ore is transported to Fort Knox and processed at a carbon in-pulp mill. The Gil access road is closed to the public. Vehicles are limited to mine traffic including ore hauling trucks, fuel trucks, supply delivery vehicles, and light duty vehicles. At the time of inspection, the route including the Gil Causeway (Photo 1) was in good shape and road cuts and berms bordering the haul road were stable (Photo 2). Map 1 illustrates approximate areas of disturbance at Gil interpreted via a desktop analysis of photos and drone imagery and the area of inspection at the Gil, which includes growth media stockpiles (GM 1-5), ore stockpiles (OS 1-2), temporary non-PAG stockpile, waste rock dumps (Gil and Sourdough), and active mining pits (Sourdough (NE, SE, and SW), Main Gil, and North Gil). At the time of inspection, exploration drilling pads were visible between Main Gil and North Gil pits on what is being called the Snack Bar.

Loading, hauling, and mine development operations are performed by Alaska Aggregate Products (AAP). Contractor facilities on site include areas for equipment parking, fuel island, shop, and offices (Photo 3). FGMI personnel perform drilling and blasting, ore control, and mine planning functions for the Gil. The deposit is mined by conventional open-pit methods seven days per week, 365 days per year. Gil ore is transported to Fort Knox and processed at a carbon in-pulp mill.



Map 1: Gil Satellite Mine active areas of disturbance. Note: GM = Growth Media, WRD = Waste Rock Dumps, CUTS include Sourdough (NE and SE), Main Gil, and North Gil). SNACKBAR is the infill exploration drilling area between Main and North Gil.

Photo 1: Gil causeway

Photo 2: Gil haul road condition and berms.

Photo 3: Gil fuel island, shop, and laydown area.

After the Gil inspection was completed, operator and agency personnel viewed the wetland complex in Fish Creek Valley, TSF North Impoundment Dam, RO2, Outfall 002, freshwater reservoir, and spillway. Please refer to the Fort Knox Mine section of this report.

Sourdough Ridge Area

The following features in the Sourdough Ridge Area were observed: Mine roads, Northeast Sourdough (Pit 1), Southeast Sourdough (Pit 2), road to uninitiated Southwest Sourdough (Pit 3), Gil 1 Growth Media Stockpile (GM 1), and Sourdough Waste Rock Dump (WRD) (See Photos 4 through 9).

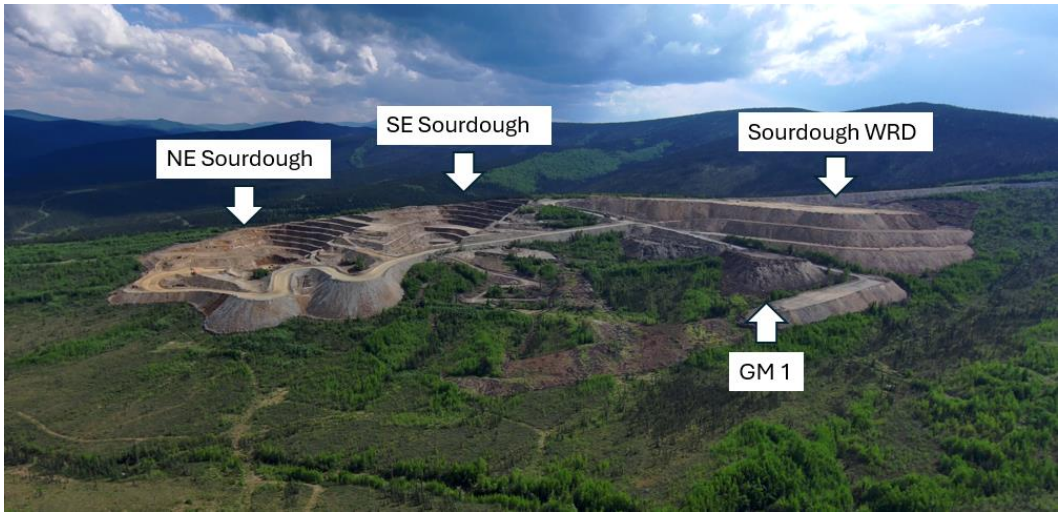


Photo 4: Gil Satellite Mine – Sourdough Ridge Area with view of NE and SE Sourdough pits, Sourdough Waste Rock Dump (WRD), and Growth Media (GM) Stockpile 1. The view is to the east-southeast.

Photo 5: Gil Satellite Mine – NE and SE Sourdough Pits, Sourdough Waste Rock Dump (WRD), and Growth Media Stockpile 1 (GM). The view is to the south.

Photo 6: Gil Satellite Mine – NE Sourdough Pit. The view is to the south.

Photo 7: Gil Satellite Mine – SE Sourdough Pit, Sourdough Waste Rock Dump (WRD), and Growth Media Stockpile 1 (GM). The view is to the south.

Photo 8: Gil Satellite Mine – NE and SE Sourdough Pits. The view is to the north.

Photo 9: Gil Satellite Mine – Sourdough Waste Rock Dump (WRD) and Growth Media Stockpile 1 (GM). The view is to the east-southeast.

Main Pit Area

The following features in the Main Area were observed: Mine roads, Ore Stockpiles 1 and 2, Growth Media Stockpiles 2, 3, 4, and 5, Gil Waste Rock Dump, Temporary Non-PAG Stockpile, Main Gil Pit, Snack Bar, and North Pit. See Photos 10 through 14. Changes in disturbance from Fall 2023 include expansion of GM5, Gil WRD, and North Pit. The area between Main Gil Pit and North Pit (Snack Bar) contains areas of disturbance from drilling activities including pads and pad access roads.

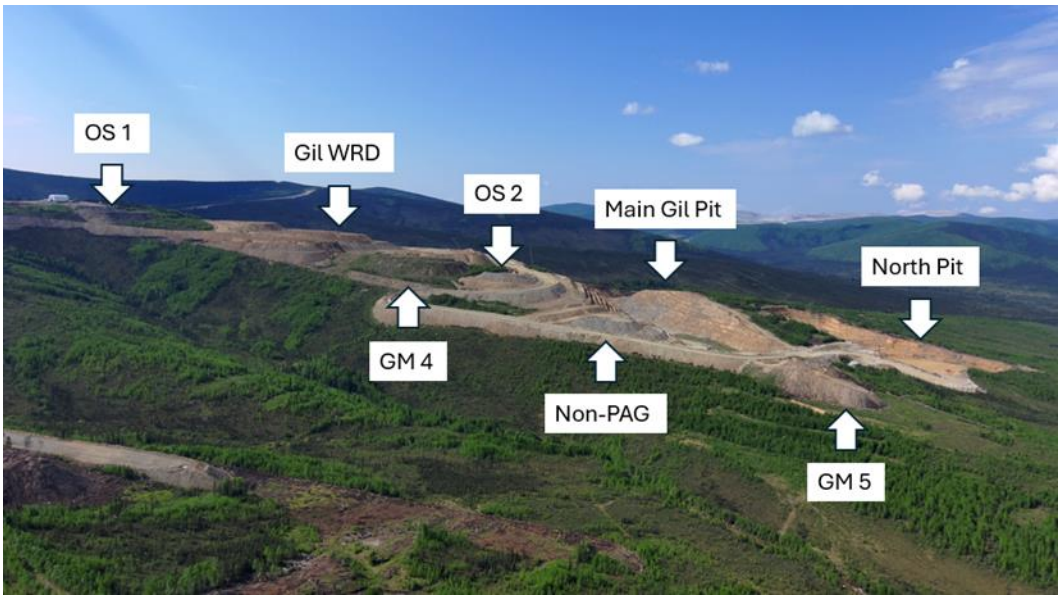


Photo 10: Gil Satellite Mine – Main Gil area with view of Ore Stockpiles (OS), Waste Rock Dump (WRD), Growth Media Stockpiles (GM), and both the Main Gil and North pits. The view is to the west.

Photo 11: Gil Satellite Mine – Main Gil area with view of Facilities, Gil Waste Rock Dump (WRD), Growth Media Stockpile 4 (GM), Snack bar, and both the Main Gil and North pits. The view is to the south-southwest.

Photo 12: Gil Satellite Mine – Main Gil area with view of Gil Waste Rock Dump (WRD), Growth Media Stockpile 4 (GM), Main Gil Pit, Snack Bar, and southern edge of North Pit. The view is to the south-southwest.

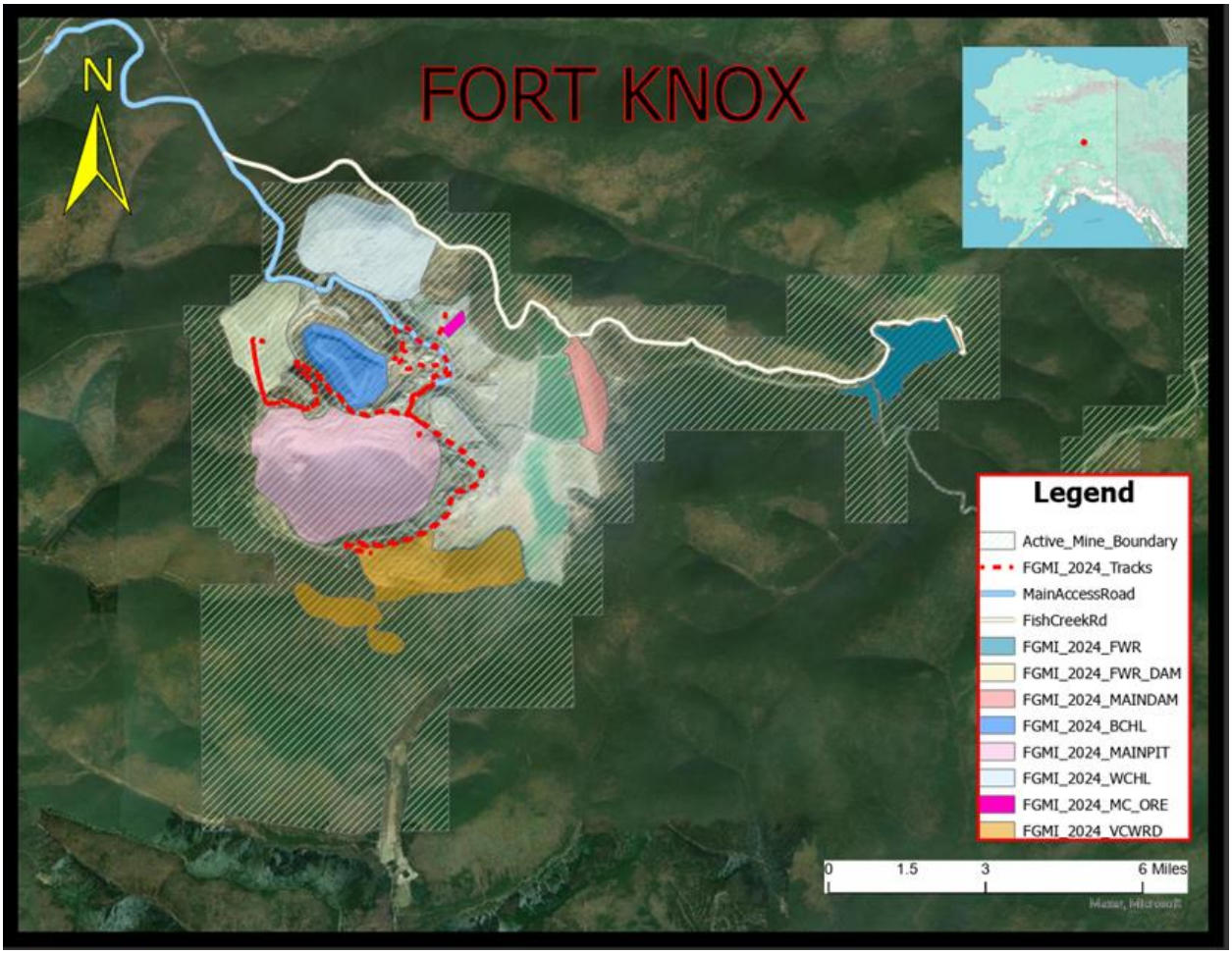
Photo 13: Gil Satellite Mine – Main Gil area with view of Gil Waste Rock Dump (WRD), Growth Media Stockpile 4 (GM), Main Gil Pit, Snack Bar, and southern edge of North Pit. The view is to the south-southwest.

Photo 14: Gil Satellite Mine – Main Gil area with view of Main Gil Pit, Snack Bar, and southern edge of North Pit. The view is to the south.

Fort Knox Mine

The Fort Knox mine (Map 2) is located approximately 26-miles northeast of Fairbanks via the Steese Highway. Within the mine, the inspection focused on the Victoria Creek Waste Rock Dump (VCWRD), Open Pit Tailings Disposal (OPTD), Barnes Creek Waste Rock Dump (BCWRD), Barnes Creek Heap Leach (BCHL), Walter Creek Valley Heap Leach Facility (WCHLF), and Manh Choh Ore Storage (MCOS). Operator and agency personnel viewed the wetland complex in Fish Creek Valley including the freshwater reservoir, spillway, Outfall 002, RO2 and TSF Impoundment Dam (See Photos 15 through 17).

At the time of inspection, the water level within the FWR was normal. Water was flowing down the channel of the spillway. Piezometer locations to monitor water seepage levels were observed along the dam. The data logger for these piezometers is housed within the valve house near the spillway.



Map 2: Satellite view of Fort Knox active mine area of disturbance and Fresh Water Reservoir.

Photo 14: Fresh Water Reservoir.

Photo 15: Fresh Water Reservoir Spillway.

Photo 16: Outfall 002. Discharge from Outfall 002 began in 2019. During 2023, Fort Knox discharged 410.74 million gallons from outfall 002.

Photo 16: RO2. RO2 treats seepage and intercept water from the Tailings Storage Facility (TSF).

Photo 17: TSF Impoundment Dam. The TSF consists of tailings, decant pond, dam, causeways, seepage interception system, and seepage monitoring system. The tailings depositional area is within the Fish Creek drainage and includes portions of the Walter Creek, Pearl Creek and Yellow Pup drainages.

Victoria Creek Waste Rock Dump

The Victoria Creek Waste Rock Dump (VCWRD) is located south of the Fort Knox Pit and Yellow Pup Waste Rock Dump (YPWRD) on leased Mental Health Trust land (See Photos 18 through 20). VCWRD is being constructed on 500 acres of which 391 acres will be new disturbance. The northern portion of the VCWRD is being developed over a portion of the existing YPWRD footprint and onto adjacent undeveloped land. The southern portion of the VCWRD is being developed south of the YPWRD on a south facing slope of the upper reaches of the Victoria Creek watershed.

Photo 18: Victoria Creek Waste Rock Dump. Note the active mine trucks on the WRD. The view is to the east.

Photo 19: Victoria Creek Waste Rock Dump. Note the active mine trucks on the WRD. The view is to the west.

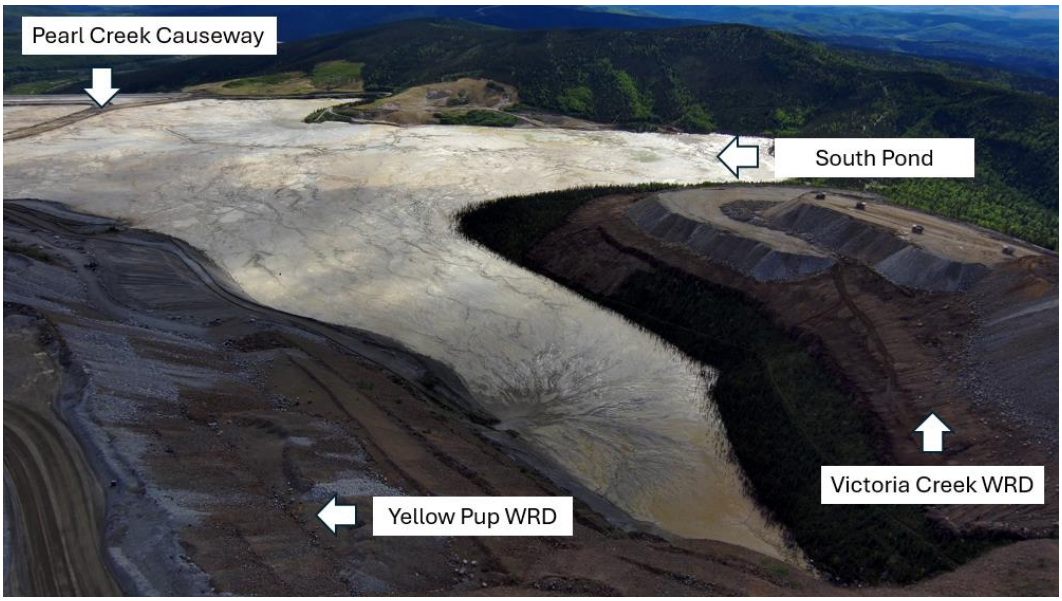


Photo 20: Victoria Creek Waste Rock Dump. Note the active mine trucks on the WRD. The view is to the east.

Fort Knox Pit and In-Pit Tailings Disposal

Fort Knox in-pit tailings disposal began in spring 2024. The in-pit pipeline corridor originates at the tails thickener and ends in the bottom of the pit at ~750ft amsl (See Photos 21 and 22).

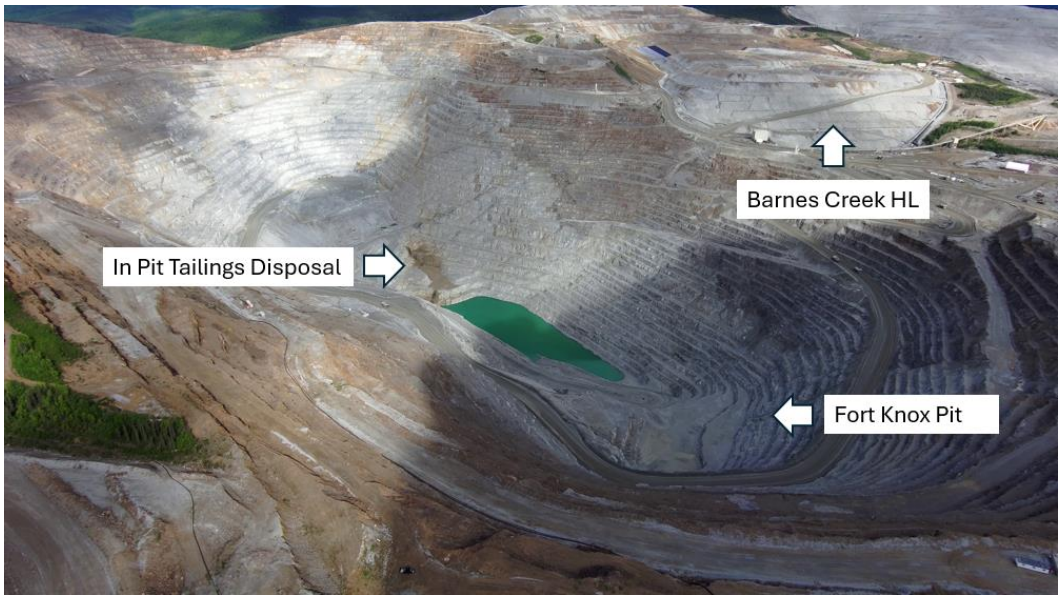


Photo 21: In Pit Tailings Disposal. Note the location of Barnes Creek Heap Leach. The view is to the west-northwest.

Photo 22: In Pit Tailings Disposal. The view is to the west.

Barnes Creek Heap Leach Facility

The BCHLF extends up the valley from the existing Barnes Creek conveyor causeway (See Photos 23 through 25).

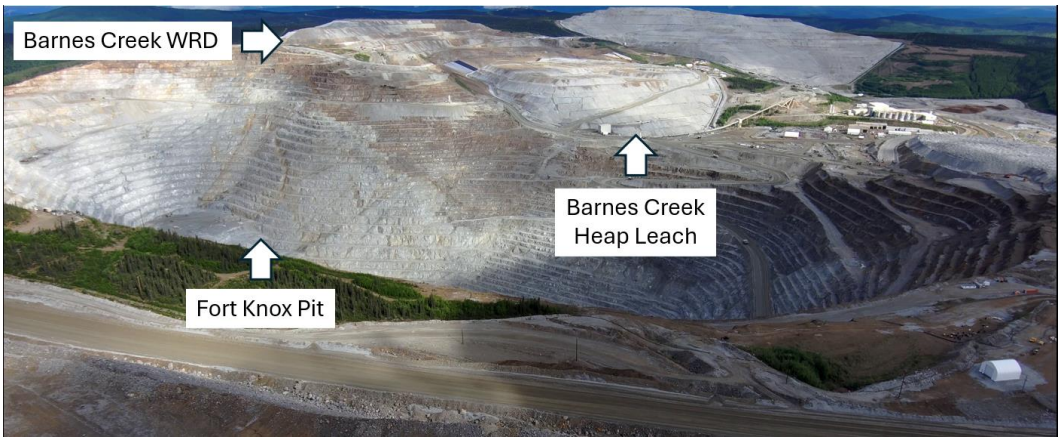


Photo 23: Barnes Creek Heap Leach and Waste Rock Dump.
The view is to the west-northwest.

Photo 24: Barnes Creek Heap Leach and Waste Rock Dump.

Barnes Creek Waste Rock Dump

The BCWRD is no longer used for tailing emplacement and is in the process of being recontoured (See Photos 25 through 27).

Photo 25: Northeast corner of Barnes Creek Waste Rock Dump. The view is to the north-northeast.

Photo 26: Northeast corner of Barnes Creek Waste Rock Dump. The view is to the south-southwest. Recontouring of the BCWRD was observed.

Photo 27: Northeast corner of Barnes Creek Waste Rock Dump. The view is to the west.

Walter Creek Valley Heap Leach Facility (WCHLF)

The Walter Creek Valley Heap Leach Facility (WCHLF) was brought into production in 2009 (See Photos 24, 25, and 28).

Photo 28: Walter Creek Heap Leach. Reclamation test plot was observed at the base of WCHL. The view is to the north.

Manh Choh Ore Stockpile

Ore from Manh Choh mine is deposited into stockpiles consisting of high-grade oxide, low-grade oxide, high-grade sulfide, and low-grade sulfide just southwest of the WCHLF (See Photos 29 and 30).

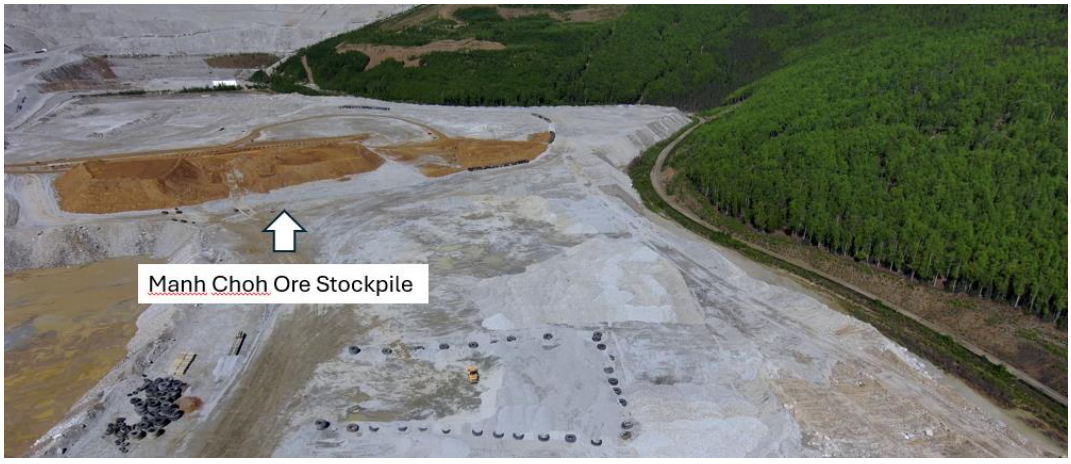


Photo 29: Manh Choh Ore Stockpile. Base of Walter Creek Heap Leach in the background. The view is to the north-northwest.

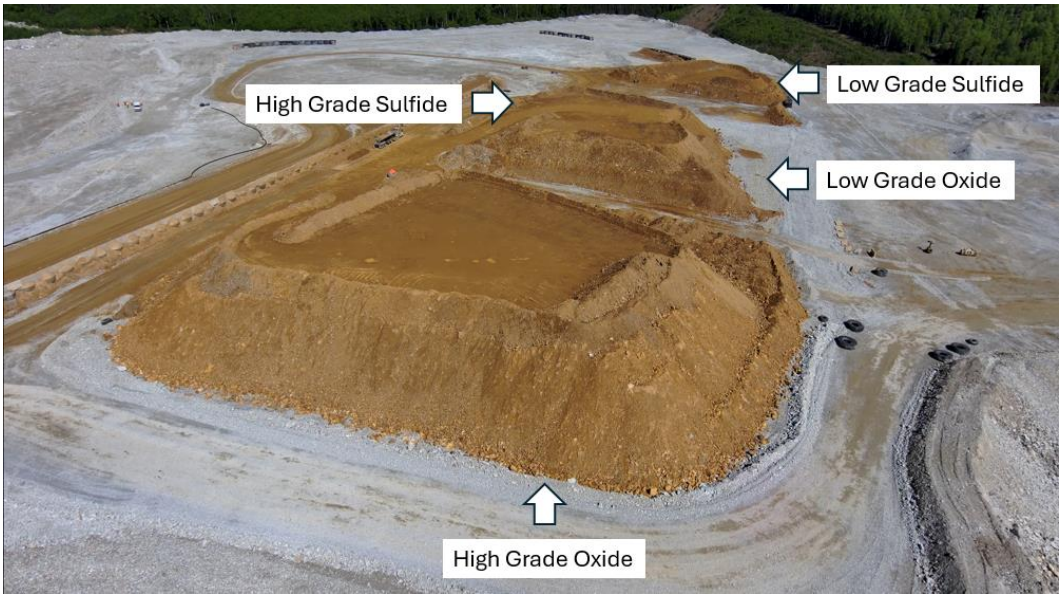


Photo 30: Manh Choh Ore Stockpiles: From foreground to background –
High-grade oxide, low-grade oxide, high-grade sulfide, and low-grade sulfide. The view is to the northeast.

Conclusion

ADNR finds the mining operations at Fort Knox and Gil mines 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.

Action Items

ADNR-Mining did not observe any actions on the mine site that required immediate attention. All observed activities followed Fort Knox and Gil Satellite Mines Plan of Operations (F20209852POA.1) and Reclamation Plan Approval (F20209852RPA.1).

End of Report

Cc:
Ashlee Adoko (ADNR)
Steve Buckley (ADNR)
Allan Nakanishi (ADEC)
Tim Pilon (ADEC)
Ben Wagner (ADNR)
Kindra Geis (ADNR)
Jenny March (ADNR)
Carolyn Curley (ADNR)
William Groom (ADNR)
Aaron Kruse (ADNR)
Audra Brase (ADF&G)
Bartley Kleven (Kinross-Fort Knox)
Brent Culleton (Kinross-Fort Knox)