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Fort Knox and Gil Satellite Mine Inspection Report

Inspection Date: September 18, 2024
Time: 9:00AM to 4:30PM
Weather: Overcast, light wind with occasional gusts, light rain
Agency Personnel: DNR: Jesse Garnett White and Eli Angel
Operator Contact: Kinross – Fort Knox: Brent Culleton and Jesse Dunshie
Inspection Objectives: Site Inspection

Operations:

The Fort Knox and Gil mines (Map 1) are owned by FGMI, a wholly owned subsidiary of Kinross Gold Corporation. The Fort Knox mine (Map 2) is located approximately 26-miles northeast of Fairbanks via the Steese Highway. The Gil Satellite Mine (Map 3) 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 Fort Knox Mine Reclamation Plan Approval (No. F20209852RPA) and Fort Knox Plan of Operations (No. F20209852POA) initially issued March 25, 2020, was amended to include Gil and is effective through March 24, 2025 (No. F20209852RPA.1 and No. F20209852POA.1). 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 AS 27.19.020 and 11 AAC 97.

Field Inspection Plan, Execution and Summary Schedule:

The DNR Mining Section (Large Mines Permitting Team) conducted a site inspection of operations at Fort Knox and Gil satellite mine for compliance with the Plan of Operations and Reclamation Plan Approvals. DNR personnel arrived on site at 9:00am and met with Kinross personnel to discuss the days field inspection plan and execution. The inspection focused on active mining disturbance, reclamation, and water management. It was decided at around 1:00pm that both Fort Knox and Gil mines could be inspected that day. The inspection was completed by 4:30pm.

Within the Fort Knox Mine, the inspection focused on the Barnes Creek Waste Rock Dump (BCWRD), Barnes Creek Heap Leach (BCHL), Open Pit Tailings Disposal (OPTD), Walter Creek Valley Heap Leach (WCHL), Manh Choh Ore Stockpile (MCOS), Gil Ore Stockpile (GOS), Tailings Storage Facility Impoundment Dam and Ponds (TSF), Pearl Creek Causeway (PCC), RO2, Outfall 002, Yellow Pup Waste Rock Dump (YPWRD), and Victoria Creek Waste Rock Dump (VCWRD).

The Gil deposit is currently in stand-by status and not being actively mined. It was recently mined by conventional open-pit methods 24 hours/day, 7 days/week, 365 days/year. The ore was transported to Fort Knox GOSP and processed at a carbon in-pulp mill. 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 was in good shape and road cuts and berms were stable. Map 3 illustrates areas of disturbance at Gil Main and Sourdough Ridge as interpreted in the field and via desktop analysis of photos and drone imagery which includes growth media stockpiles (GM 1-5), ore stockpiles (GOS 1-2), temporary non-PAG stockpile, waste rock dumps (Gil and Sourdough WRDs -GWRD and SWRD respectively), exploration drilling pads (Snack Bar) and mining pits (Sourdough (NE and SE), Main Gil, and North Gil).

Drone operations were used to capture imagery of disturbance at both Fort Knox and Gil. Please note that North arrows on photographs are not exact or precise but rather the general direction.

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. All photos are taken from drone video footage except for Photo 20.

1. Inspection of Active Areas of Disturbance

- 1.1. Barnes Creek Heap Leach (BCHL) was active at the time of inspection. The BCHL extends up valley from the existing Barnes Creek conveyor causeway to the base of the BCWRD (Photos 1-3).
- 1.2. Barnes Creek Waste Rock Dump (BCWRD) is no longer used for tailing emplacement and is in the process of being recontoured (Photos 4-7). No work on this facility was observed during this visit.
- 1.3. 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 (Photos 8-9).
- 1.4. Walter Creek Heap Leach (WCHL) No work on this facility was observed during this visit. (Photos 10-11).
- 1.5. Manh Choh Ore Storage Pad (MCOSP) was active at the time of inspection. 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 WCHL (Photos 12-13).
- 1.6. Gil Ore Storage Pad (GOSP) was not active at the time of inspection (Photos 14-15).
- 1.7. DNR staff observed the Tailings Storage Facility (TSF), Ponds, Impoundment Dam, RO2, and Outfall 002. (Photos 16-20).
- 1.8. Victoria Creek Waste Rock Dump (VCWRD) (Photos 21-24) and Yellow Pup Waste Rock Dump (YPWRD) (Photos 25-26). The VCWRD is located south of the Fort Knox Pit and YPWRD on leased Mental Health Trust land. 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. Part of the VCWRD is being developed south of the YPWRD on a south facing slope of the upper reaches of the Victoria Creek watershed.

1.9. Main Gil and Sourdough Ridge. The following features in the Main Gil area were observed: GM 1-5, GOS 1-2, temporary non-PAG stockpile, WRD, Main and North Gil pits, and the Snack Bar (Photos 27-32). The following features in the Sourdough Ridge Area were observed: Mine roads, NE and SE Sourdough pits, road to uninitiated Southwest Sourdough, GM 1, and WRD (Photos 33-39). The primary change to the Main Gil and Sourdough areas from DNR site inspection in June 2024 is the hydroseeding of the WRDs.

2. Water Management

2.1. DNR staff observed the Tailings Storage Facility (TSF), Ponds, Impoundment Dam, RO2, and Outfall 002. (Photo 20).

Violations:

All observed activities followed The Fort Knox Mine Reclamation Plan Approval (No. F20209852RPA.1) stipulations, AS 27.19 and 11 AAC 97.. All observed activities followed The Fort Knox Mine Plan of Operations Approval (No. F20209852POA.1) stipulations, AS 38.05 or 11 AAC 86.800.

Conclusion and Recommendations:

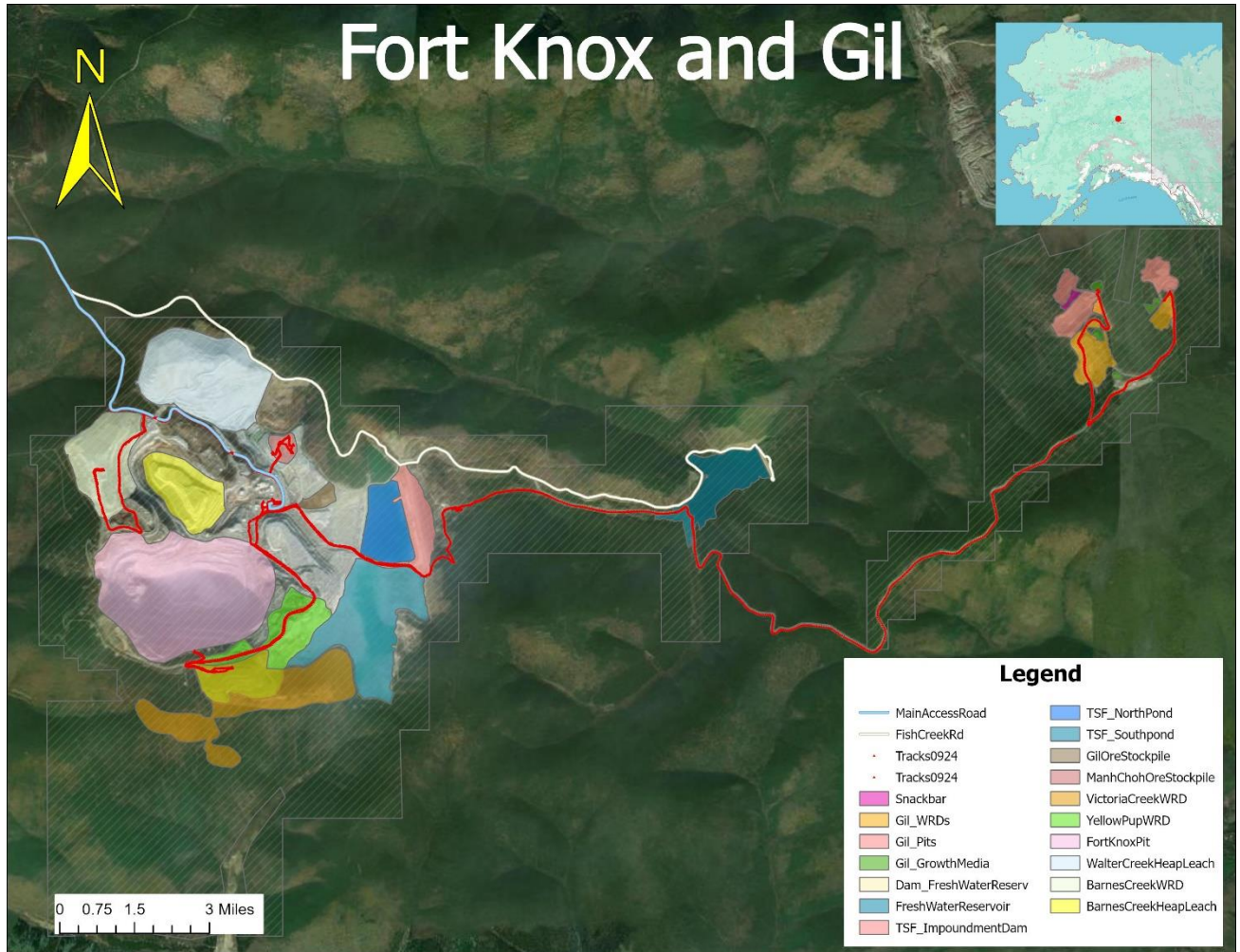
ADNR finds the mining operations at Fort Knox and Gil mines in good condition and consistent with industry standards. The operator facilitates activities in a manner which prevents unnecessary and undue degradation of State land and water resources and is responsive to requests made by the department.

Report prepared by: Jesse Garnett White

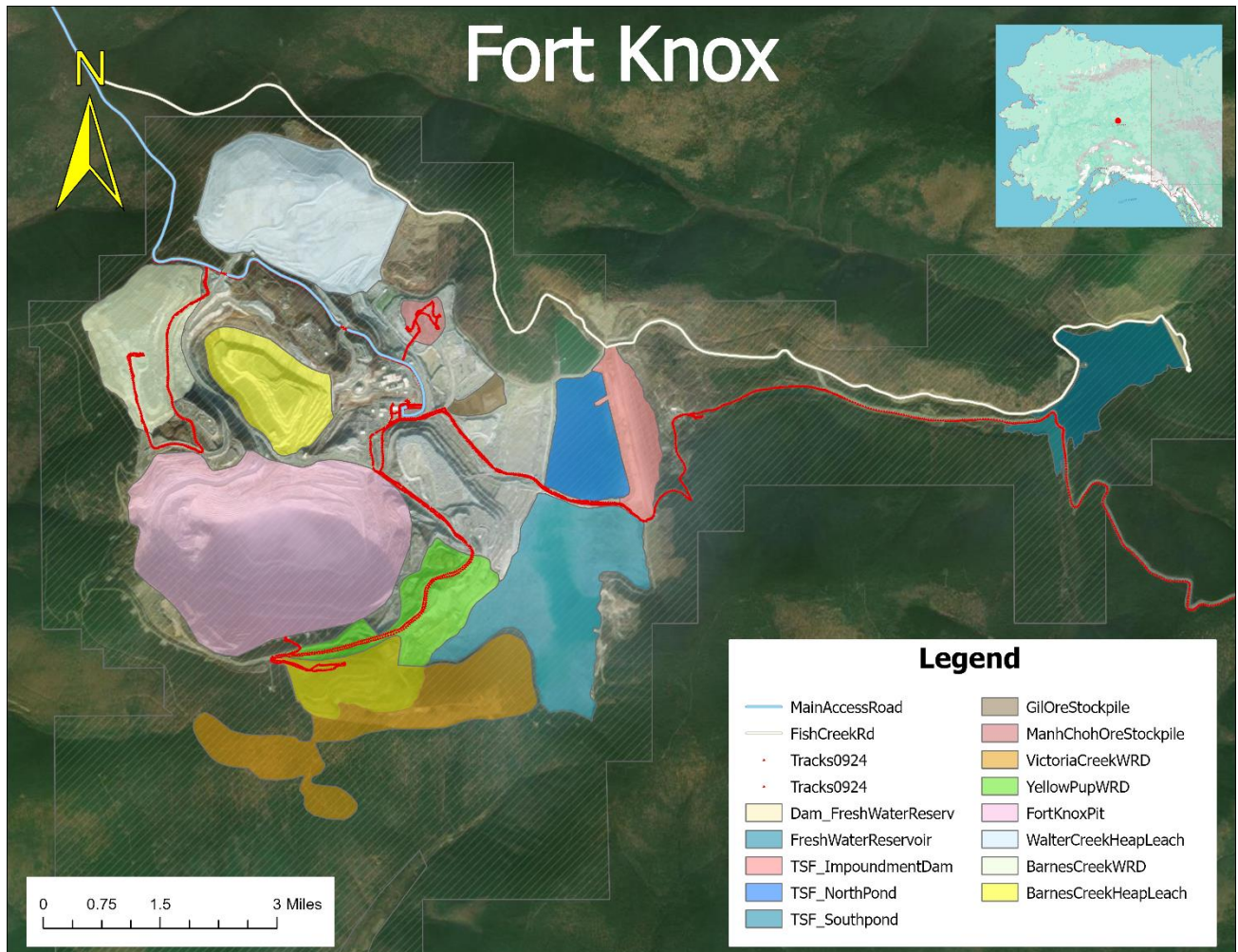
Cc: Steve Buckley (DNR)
William Groom (DNR)
Carolyn Curley (DNR)
Aaron Kruse (DNR)
Kindra Geis (DNR)
Jenny March (DNR)
Ben Wagner (DNR)
Kim Bustillos (DNR)
Ashley Adoko (DNR)
Allan Nakanishi (DEC)
Timothy Pilon (DEC)
Audra Brase (DFG)
Bartley Kleven (Kinross)
Brent Culleton (Kinross)
Edmond Packee (Kinross)

Appendix A

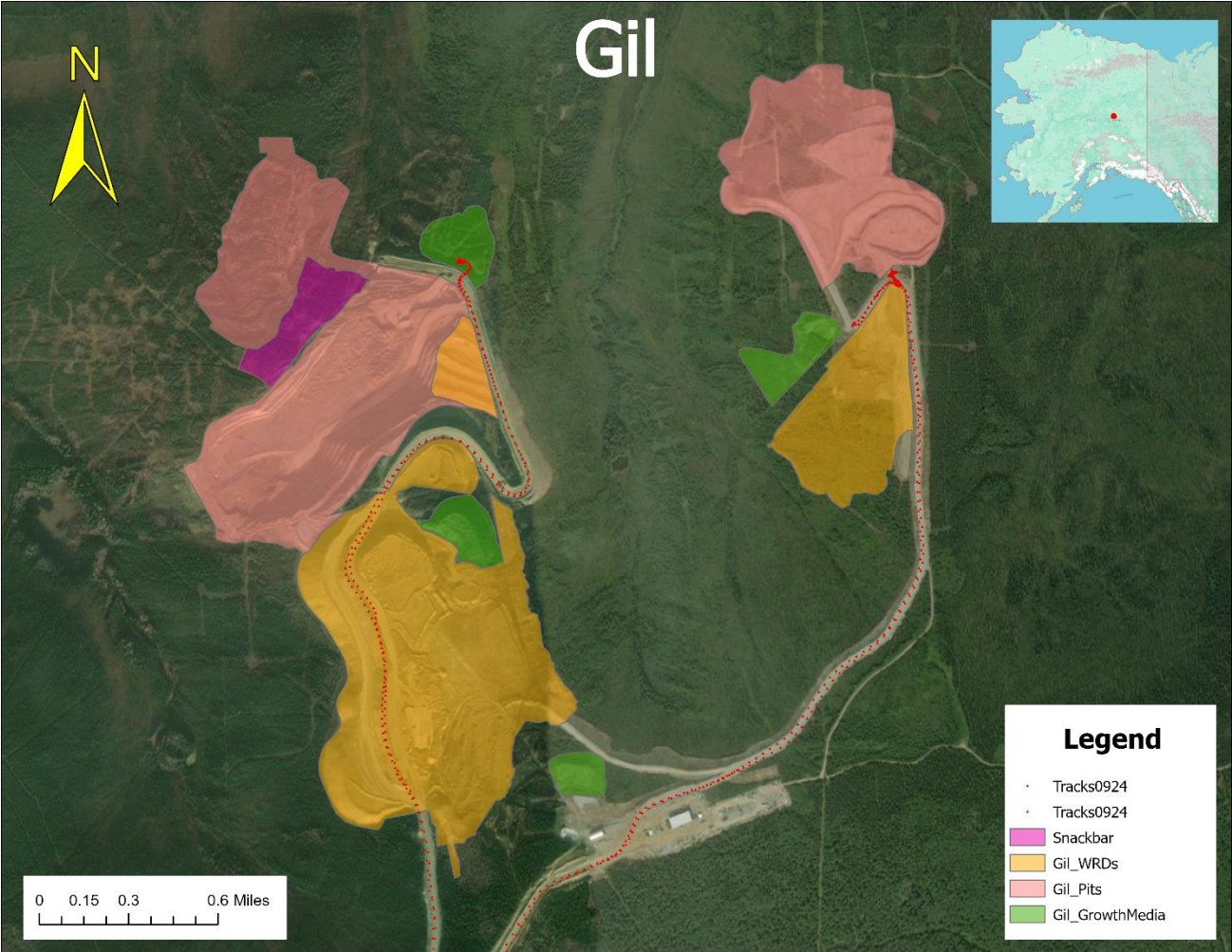
Inspection Maps and Observations of Note



Map 1: Fort Knox and Gil Mines 09/2024 Inspection. Note: TSF = Tailings Storage Facility, WRD = Waste Rock Dump.



Map 2: Fort Knox Mine 09/2024 Inspection. Note: TSF = Tailings Storage Facility, WRD = Waste Rock Dump.



Map 3: Gil Satellite Mine 09/2024 Inspection. Note: WRD = Waste Rock Disposal.

Field Inspection Observations

Photo 1: Barnes Creek Heap Leach (BCHL). Mill, shops, offices, and parking in the foreground. BCWRD in background. Fort Knox Pit upper right.



Photo 2: East view of the BCHL. Fort Knox Pit upper right. At the time of inspection BCHL was on target to free additional air space with all the rain.



Photo 3: Another view of the BCHL. WCHL upper left.



Photo 4: Barnes Creek Waste Rock Dump (BCWRD). Southerly view of the top, final deposition of tailings and initial reclamation phase (contouring) of the west and northwest sides.



Photo 5: A northeast view of the northwest side of the BCWRD exhibiting final upper layer of deposition and initial phases of reclamation (contouring).



Photo 6: Another view of the north west side of the BCWRD showing final deposition and initial phases of reclamation (contouring).



Photo 7: Initial phases of reclamation at the southern end of the BCWRD.



Photo 8: View of the Fort Knox Pit from southern end of the BCWRD.



Photo 9: View of the Fort Knox Pit from the top of YPWRD. The outfall and tailings infill of the pit is increasing in depth. BCHL, BCWRD, and WCHL in background.



Photo 10: Walter Creek Heap Leach (WCHL). As of 9/3/24 WCHL levels were down to 1522 and continuing downward.



Photo 11: Another view of the WCHL with Manh Choh Ore Stockpile (MCOS) in the middle right of the photo.



Photo 12: MCOS includes the following: Stockpile 6 Overflow OHG-Oxide High Grade, Stockpile 5 Overflow SHG-Sulfide High Grade, Stockpile 4 SLG Sulfide Low Grade, Stockpile 3 SHG-Sulfide High Grade, Stockpile 2 OLG-Oxide Low Grade, and Stockpile 1 OHG-Oxide High Grade.



Photo 13: A different view of the Manh Choh Ore Stockpiles.



Photo 14: Gil Ore Stockpile (GOS). TSF north and south ponds in background.



Photo 15: Another view of the GOS. TSF north and south ponds in background.



Photo 16: Northern view of the TSF Dam and North Pond. RO2 at the base of the dam. Note the new construction on the Pearl Creek Causeway (PCC).



Photo 17: TSF Dam, PCC, and North and South ponds. Note the new construction on the PCC.



Photo 18: View of South Pond. WRDs in the background.

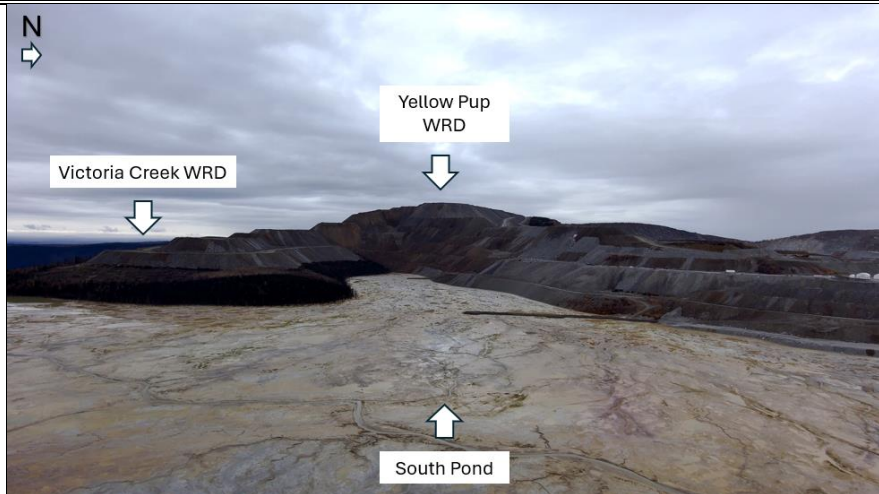


Photo 19: RO2 and engineered wetlands complex below the TSF Dam.



Photo 20: Outfall 002. At the time of inspection, the Outfall was in good condition and the water looked clear and clean.



Photo 21: East view of Victoria Creek Waste Rock Dump (VCWRD) including cleared ground and areas of deposition. Confluence of Victoria and Johnson creeks and placer operation in the background.



Photo 21: Southwest view of VCWRD including cleared area and areas of deposition.



Photo 23: View of the northeast side of the VCWRD. South Pond in the upper and lower left of the photograph.



Photo 24: West view of the VCWRD.



Photo 25: Yellow Pup Waste Rock Dump (YPWRD. Fort Knox Pit to the right.



Photo 26: Easterly view of the top of the YPWRD.



Photo 27: West view of Main Gil from Sourdough Ridge.

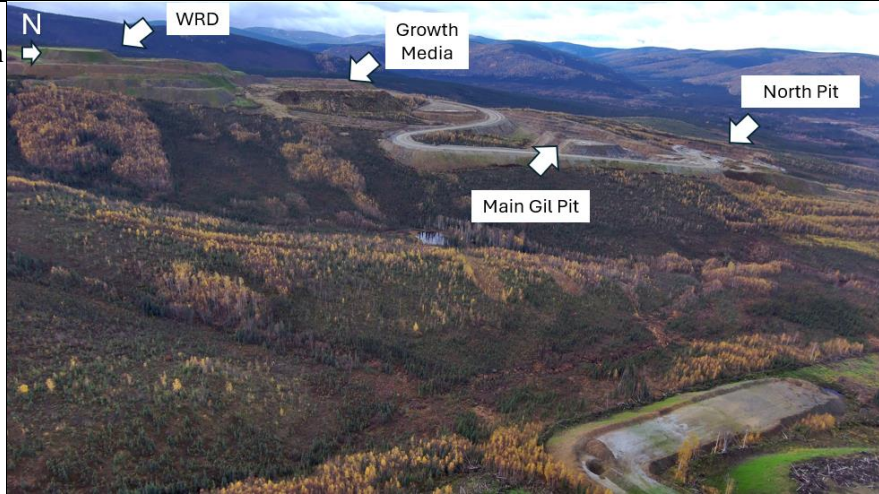


Photo 28: Main Gil Pit, Snack Bar and North Pit to the right.



Photo 29: Main Gil Pit,
Snack Bar and North Pit
to the left.



Photo 30: North Pit.



Photo 31: A different view of North Pit. Snack Bar at bottom of photo.



Photo 32: Main Gil including GM 4, GOS 2, and GWRD.

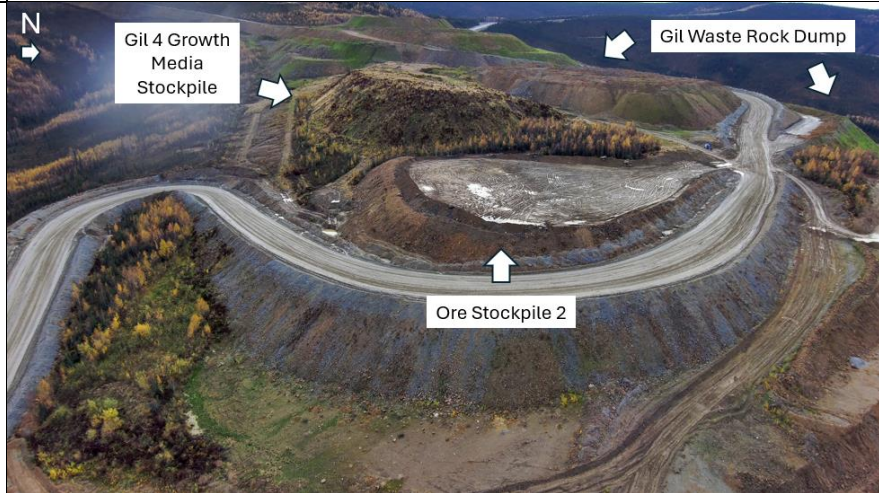


Photo 33: Main Gil GM 4 and GWRD. Note the hydroseeding taking hold on the GWRD.



Photo 34: View of Sourdough Ridge from drone above Main Gil Pit. Note hydroseeding taking hold on the SWRD.



Photo 35: Sourdough Waste Rock Dump (SWRD) and Gil Growth Media Stockpile #1. Hydroseeding is well established on the SWRD, and GM #1, There are two moose grazing on the new growth (bottom left of the SWRD within red circle).



Photo 36: Bottom left of the SWRD exhibiting hydroseeding, Brent Culleton, and two moose.



Photo 37: SWRD and Gil GM #1.



Photo 38: View of Gil GM #1.



Photo 39: View of both NE and SE Sourdough pits.

