THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources

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Kensington Mine Field Inspection Report

Inspection Date:	September 11, 2024
Time:	8:00 AM to 3:00 PM
Weather:	Mostly cloudy with fog in the morning. Clearing to sun in the afternoon with an average temperature of 50°F.
Agency Personnel:	DNR: Jesse Garnett White, William Groom, and Carolyn Curley
Operator Contact:	Coeur Alaska: Sierra Lammers
Inspection Objectives:	Site Inspection

Operations:

The Kensington Mine is located approximately 45-miles northwest of Juneau in the Tongass National Forest between Berners Bay and Lynn Canal (Map 1). Coeur Alaska, Inc. (Coeur) is the operator of the mine, a wholly owned subsidiary of Coeur Mining. The mine operates on and within private property, federal claims, and a state upland mining lease. Coeur Mining has 100% ownership in the mining operations and mineral land holdings totaling 12,338 net acres.[1] Gold is the primary resource within this load deposit, mined wholly as an underground operation.

Mineralization and geology of the operational area are examples of orogenic-style, or mesothermal vein-style gold deposits. Significant gold vein deposits are hosted in Jualin diorite with discrete vein systems defined by one or more through-going, fault-filling quartz veins. Gold and gold-silver telluride minerals with associated native gold is the predominant vein mineralization characterization.[2]

Kensington Mine began commercial production in 2010 and operates 24-hour days, 365 days a year. Gold production rate is approximately 125,000 ounces per year. Historically, daily production averages 1,800 tons of ore while generating approximately 800 tons of waste rock. Milled concentrate is shipped off site for processing. Tailings are disposed of by two methods: 40% are sent to the underground paste plant and used as back fill in previously mined-out stopes, and 60% is deposited within the Tailings Treatment Facility (TTF). Currently, life of mine is expected to continue through 2033.[3]

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[1] Coeur Mining. (2023). *Kensington, AK*. Operation Facts. Retrieved: 8/7/2024. https://www.coeur.com/operations-projects/kensington-ak/default.aspx

[2] Pascoe, C., Keim, R.P., Haarala, P. (2021) *Kensington Gold Operations Alaska Technical Report Summary*. Coeur Mining.

[3] Coeur Alaska, Inc. (2018). *Plan of Operations Amendment 1 (POA 1) For the Kensington Gold Mine.* Coeur Mining.

Field Inspection Plan, Execution and Summary Schedule:

The Alaska Department of Natural Resources (DNR) primary objectives for the field inspection of Kensington Mine (Maps 1-7) were to inspect active disturbance including waste rock storage (WRS) areas and water management. DNR conducts annual inspections to ensure compliance with the Kensington Mine Reclamation Plan Approval No. J20223158RPA, as required under AS 27.19 and 11 AAC 97. The United States Forest Service (USFS) is the lead agency regarding mining activities on federal land.

DNR staff arrived via crew boat at Slate Cove Marine Terminal (SCMT)/Kensington Port at approximately 6:45 AM. From there, it's a short bus ride of about 10 miles to Kensington Mine. Sierra Lammers (point of contact) was there to meet us before attending a safety brief on the mine site and its facilities. Afterwards, we had a short meeting with Sierra to review and design the inspection plan focused on active disturbance and water management, allowing for selecting additional sites in an opportunistic fashion as time allowed.

The inspection began at the Kensington Camp Administration Building. We traveled on the Jualin and Upper TTF Pipeline roads to the Lower Slate Lake Tailings Treatment Facility (TTF) where we signed in with personnel. We then drove to the base of the TTF Dam to view the dam, seepage pump, spillway, plunge pool, new plunge pool area, and associated disturbed areas. From the crest of the TTF Dam, the drone was deployed. Once the drone flight was completed, we travelled to the TTF Back Dam where the drone was also deployed. During the flight we were able to capture video of areas of interest, such as: organic stockpile, north end disturbance, northwest diversion structure, the current water treatment plant (WTP) and new WTP area. We then drove to Slate Cove Marine Terminal – SCMT (also known as Kensington Port), Lower Port Laydown Yard (LPLY), and Bulk Fuel Depot (BFD). After some discussion we travelled to Pit-4 Waste Rock Stockpile (WRS), where again, the drone was deployed to inspect the entirety of the area including main Pit-4 WRS, sediment pond, and WRS expansion, Graphitic Phyllite Storage Cell (GPSC), organic stockpile, and Bridge 1 and new Pit-4 ponds. Once completed, we went to the inactive Jualin Portal after which we visited remediation of the tailings pipeline and the Snowslide Gulch Avalanche Control Area. Next, we travelled underground from Kensington Portal to Comet Portal. Once outside, we deployed the drone from the Comet Laydown Yard (CLY) and viewed the Comet WRD, and Comet WTP after which we walked from the WTP to Outfall 001. We then travelled the Comet Beach Road to Comet Beach Camp (CBC) and Core Storage where the drone was also deployed. The CBC was our final area inspection and once completed we travelled back through the mine and to the Kensington Camp Administration Building. DNR staff then met with both Sierra Lammers and Pete Strow to discuss the inspection and answer questions.

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 on the photographs are approximate and not precise.

1. Inspection of Active Areas of Disturbance

1.1. Slate Cove Marine Terminal, Lower Port Laydown Yard, and Bulk Fuel Depot: DNR Staff traveled from the TTF Area (see Section 2.2) to the SCMT (Photo 9) via the TTF Pipeline and Jualin roads. Everything was in good order. The LPLY and BFD were not inspected in detail as Coeur personnel were working in those areas at the time. We then traveled to Pit-4 via the Jualin Road.

1.2. Pit-4 WRS (Photos 10-16): DNR Staff deployed the drone at Pit-4 to view the organic stockpile, GPSC, WRS, WRS Expansion, and pond. The WRS Expansion was active at the time of inspection. Approximately 99% of the ARD has been removed from the GPSC. Coeur personnel continue to excavate the remaining 1% to the southeast. Once this is completed, waste rock will be deposited over the current shallow layer of waste rock pebbles on the floor of the GPSC. Everything in and around Pit-4 was in good working order at the time of inspection. The drone flight also documented

the Mud Dump (including Fines and Course ponds – photos 14 and 16) and Bridge 1 and Pit-4 ponds (Pit-4 Pond was under construction – photos 10-12). Once the flight was completed, we left for the Jualin Portal (see Section 3.1 in Miscellaneous Sites).

1.3. Comet Area (Photos 20-21): DNR Staff travelled underground from Kensington Portal to Comet Portal. Once at the CLY, the drone was deployed. The WRS was in good condition and the WTP, clarifier, treatment ponds, and sediment filtration storage area were operating normally reviewing the area, we walked to Outfall 001 (see section 2.1). Our final stop of the day was CBC and Core Storage (Photos 25-27). The drone was deployed from the beach. There was a significant increase in core boxes as compared to DNR's last inspection in June 2024.

2. Water Management

2.1. Sherman Creek Outfall (Outfall 001): DNR Staff observed Outfall 001 (Photos 22-24) at the end of the raised walkway and at creeks edge. Outfall 001 is monitored weekly and sampled monthly. The outfall was operating normally and there were no concerns by DNR staff.

2.2. Tailings Treatment Facility (Photos 1-8): DNR staff visited the main dam, TTF, and its facilities including Outfall 002. Coeur personnel were actively working at the site of the original plunge pool. Active disturbance below the TTF Dam included gravel road construction and a separate path (excavator tracks) where pipe had been laid to the new plunge pool area. Trees to the east of this area had been cut down but not cleared at the time of inspection. The downstream and upstream slopes of the dam are gradually being populated by shrubbery. A drone was deployed from the crest of the dam to document new disturbance and the entire TTF area including the TTF Back Dam, WTP, and new WTP Area. Note: Stockpiles of PAG material have been removed from along the TTF access road since DNR's previous visit to the area in June 2024.

The spillway chute (Photos 1-3) was in good condition with water flowing out of the spillway pipe into the plunge pool. The seepage pump area was tidy and accessible. Disturbance below the dam is associated with construction of the new spillway location. The crest of the dam was walked in its entirety to the western abutment where it was noted that the graphitic phyllite cover was in good condition (Photo 1-4). The TTF had exposed tailings in the form of mounds from the upstream slope of the dam to the boom (Photos 1-2 and 4-5). Trees were cut down but not removed along the east side of the TTF from the new WTP Area to the main dam and beyond to the new plunge pool area for the expansion to construct the next dam lift and elevate the access road. The trees had not been removed at the time of inspection. The area of disturbance for the new WTP is about 5.76 acres (Photos 6 and 8). The new WTP Area was in good condition, graded, and sloped to contour. After completing the TTF drone flight we travelled to the Back Dam (see Section 2.3) area to view the completed construction, organics stockpile, WTP and new WTP Area.

2.3. Tailings Treatment Facility Back Dam (Photos 6-7): The drone was deployed to view the completed Back Dam and initial phase of the new WTP area. Immediately to the west is an organics stockpile and to the east the WTP and new WTP Area. Upper Slate Lake from drone view looked clean and pristine (Photo 7). The crest of the Back Dam was walked from end to end after which we drove the entirety of the gravel road along the north end of the TTF and Northwest Diversion Structure before leaving for SCMT.

3. Miscellaneous Sites

3.1. Jaulin Portal, Tailings Pipeline, and Snowslide Gulch (Photos 17, 18, and 19 respectively): DNR Staff viewed the inactive Jualin Portal then visited the remediated pipeline. The area around the Jualin Portal was tidy and accessible. The pipeline was repaired and covered with reject pebble from the mill. DNR staff inspected the site and found it to be in good condition. Coeur staff continue to monitor the site weekly. Up the road, we viewed the Snowslide Gulch Avalanche Control Area which was in good order.

Violations:

No violations of Kensington Reclamation Plan Approval No. J20223158RPA stipulations, AS 27.19 or 11 AAC 97 were observed during this inspection.

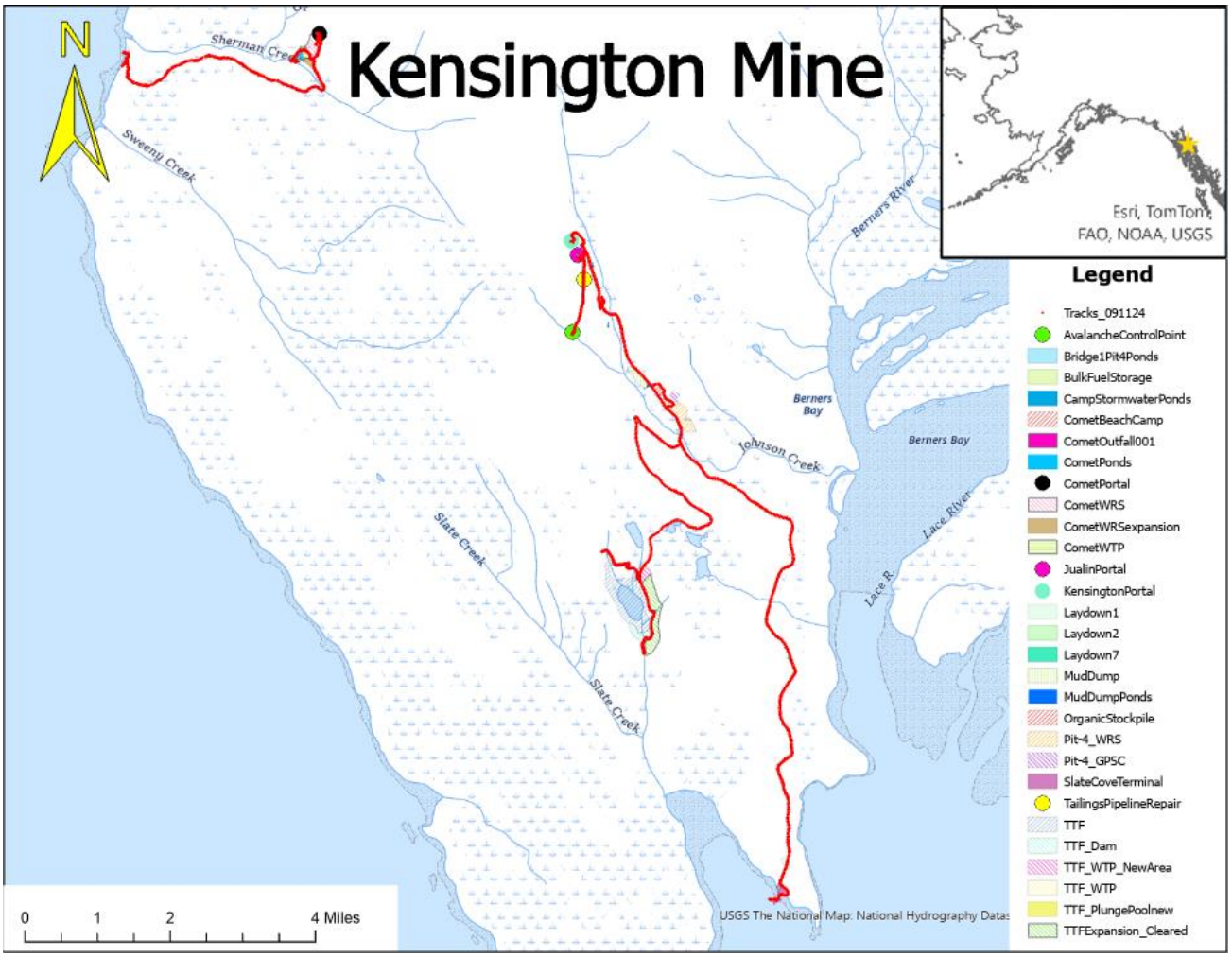
Conclusion and Recommendations:

DNR finds Coeur's Kensington Mine operation is in good condition and is consistent with industry standards. The operation facilitates activities in a manner which prevents unnecessary and undue degradation of private, USFS lands, and State water resources.

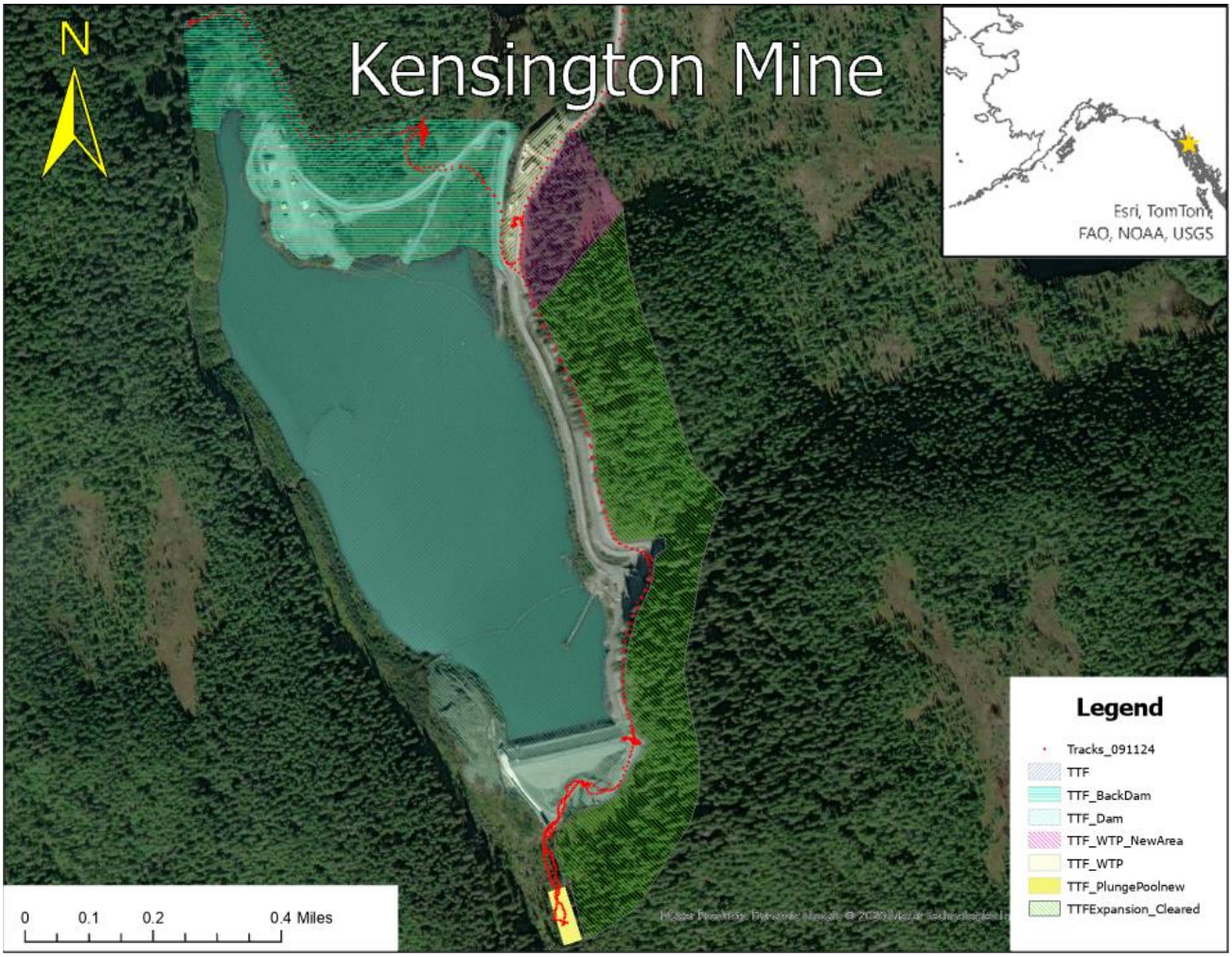
Report prepared by: Jesse Garnett White and Aaron Kruse

Cc: Steve Buckley (DNR)
William Groom (DNR)
Sylvia Kreel (DNR)
Carolyn Curley (DNR)
Allan Nakanishi (DEC)
David Khan (DEC)
Ben Wagner (DNR)
Kendra Geis (DNR)
Casey Loofbourrow (USFS)
Kate Kanouse (ADF&G)
Pete Strow (Coeur Alaska)
Sierra Lammers (Coeur Alaska)

Appendix A
Inspection Maps and Observations of Note

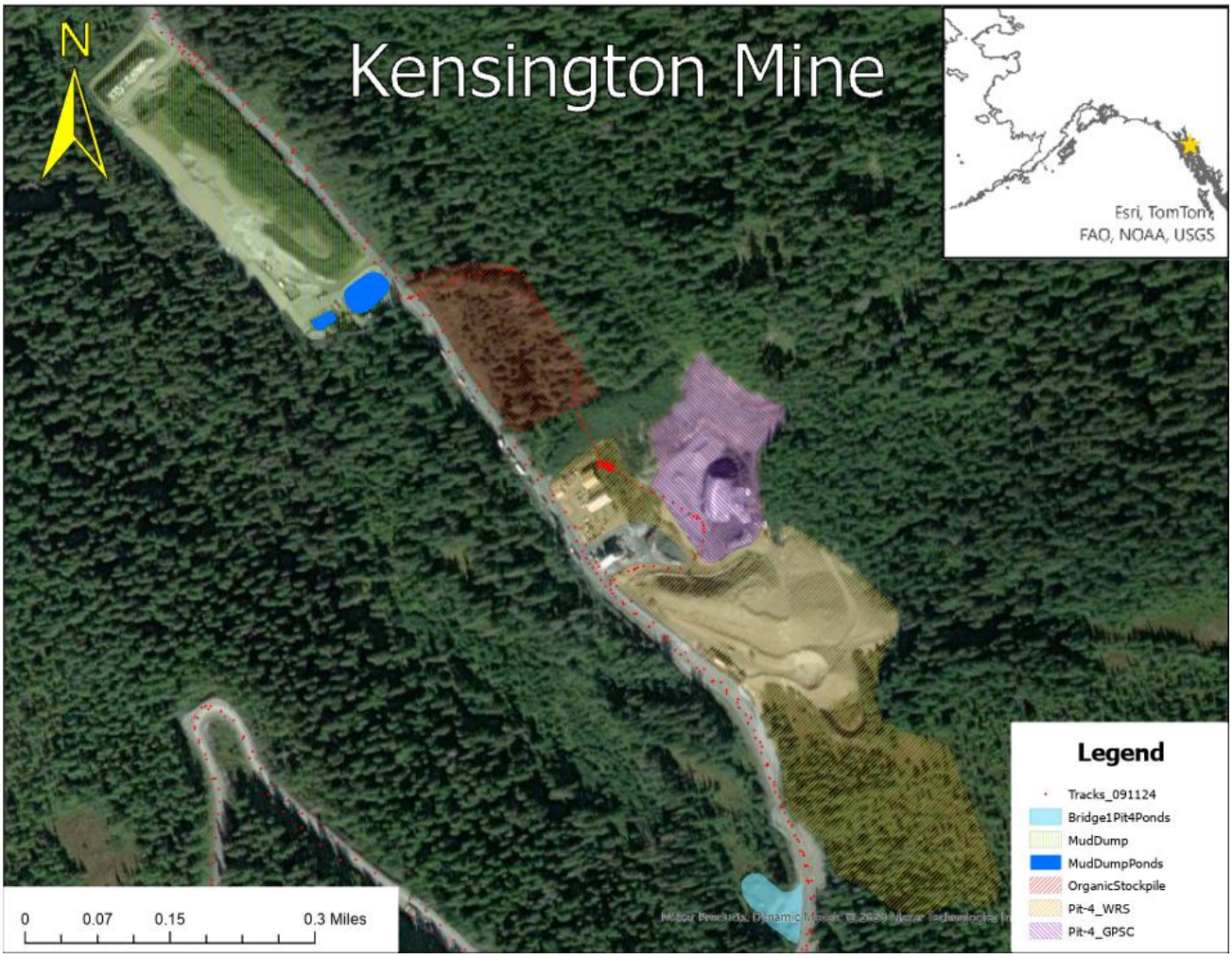


Map 1: Kensington Mine Area and Inspection Tracks. Note: GPSC – Graphitic Phyllite Storage Cell, TTF – Tailings Treatment Facility, WRS – Waste Rock Storage, WTP – Water Treatment Plant.

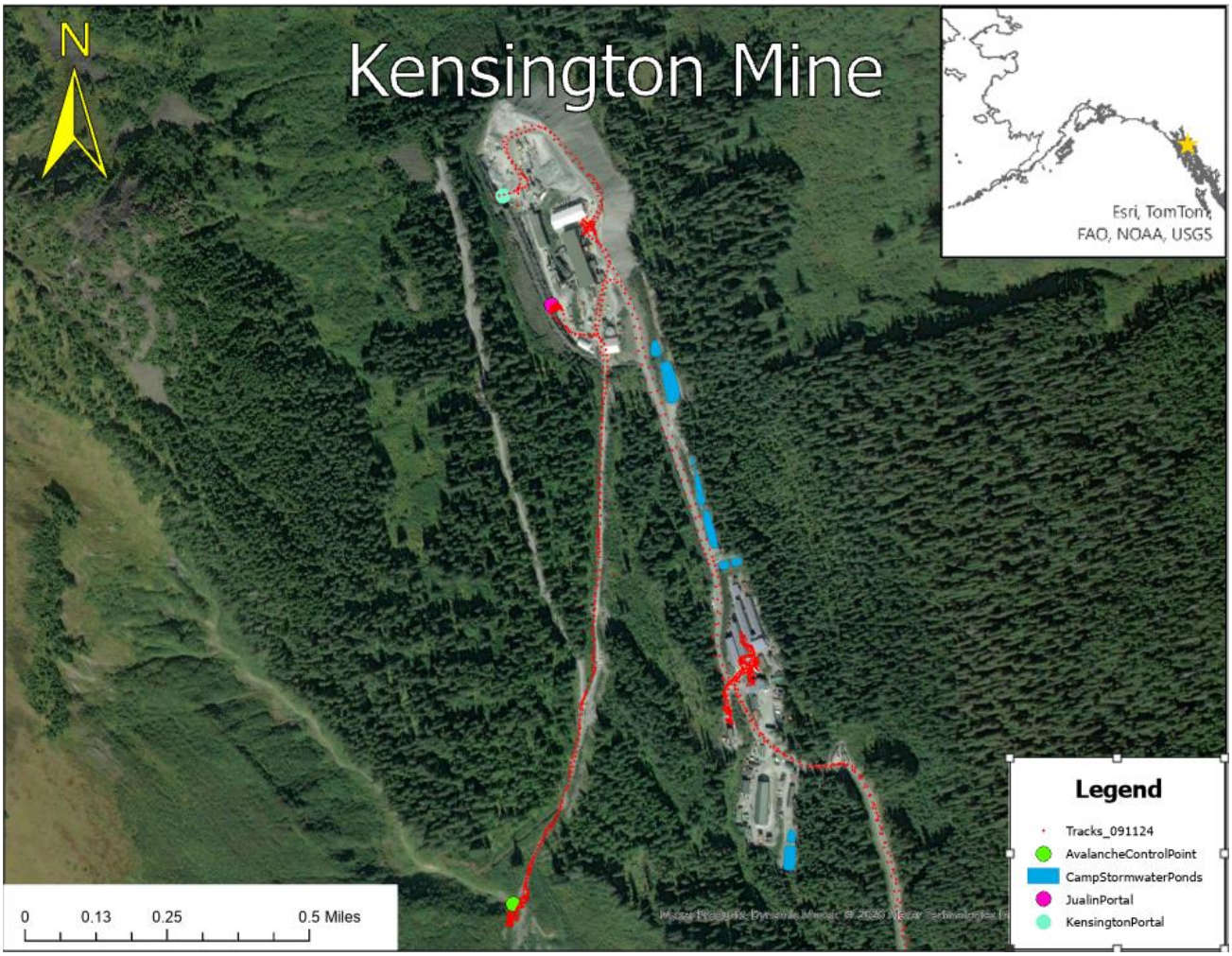


Map 2: TT, TTF Dam, new Plunge Pool area, original WTP, new WTP area, Back Dam, TTF Expansion - Clearcut Disturbed Area, and Inspection Tracks. Note: TTF – Tailings Treatment Facility, WTP – Water Treatment Plant.

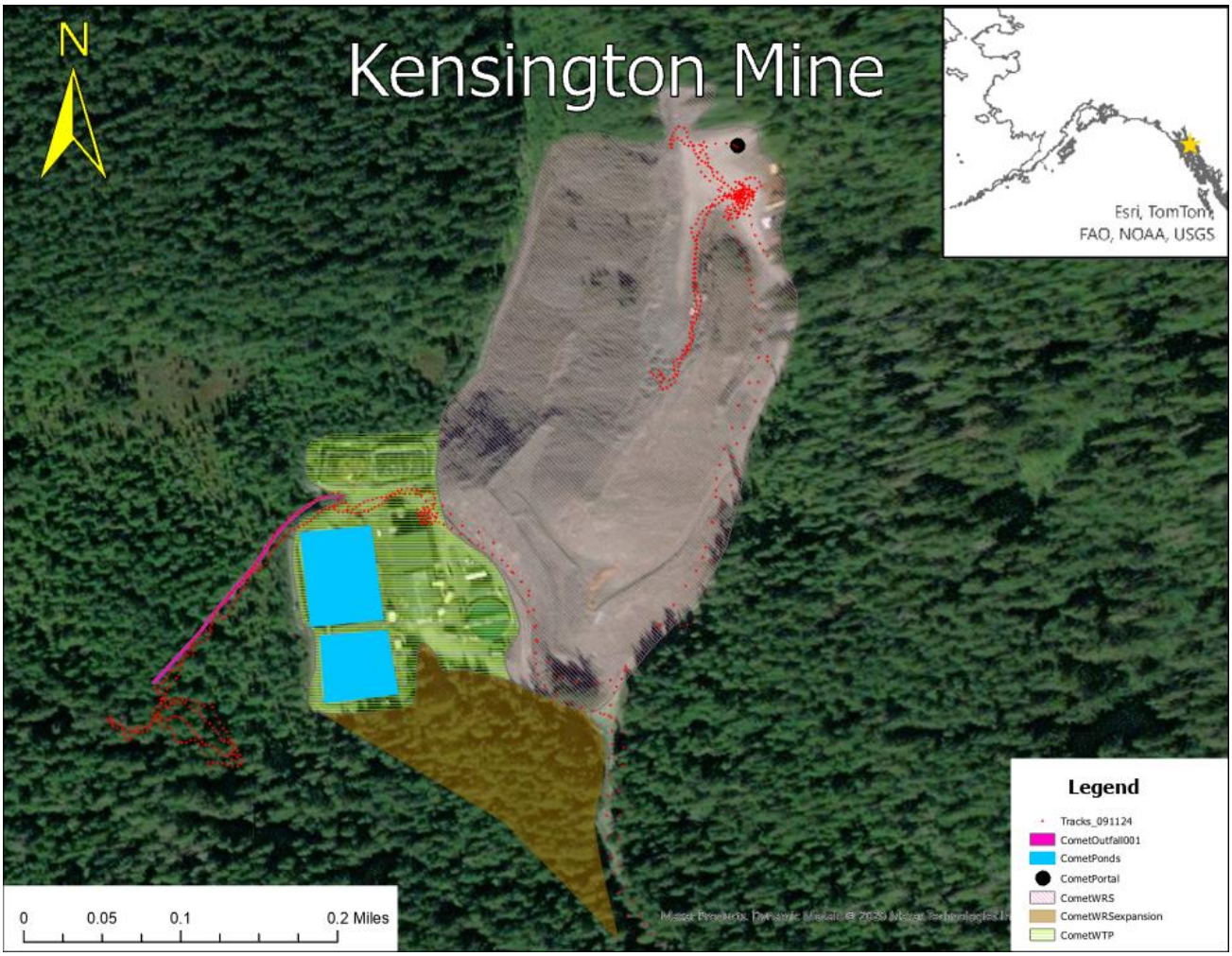
Map 3: Slate Cove Marine Terminal, Lower Port Laydown Yard, Bulk Fuel Depot and Inspection Tracks.



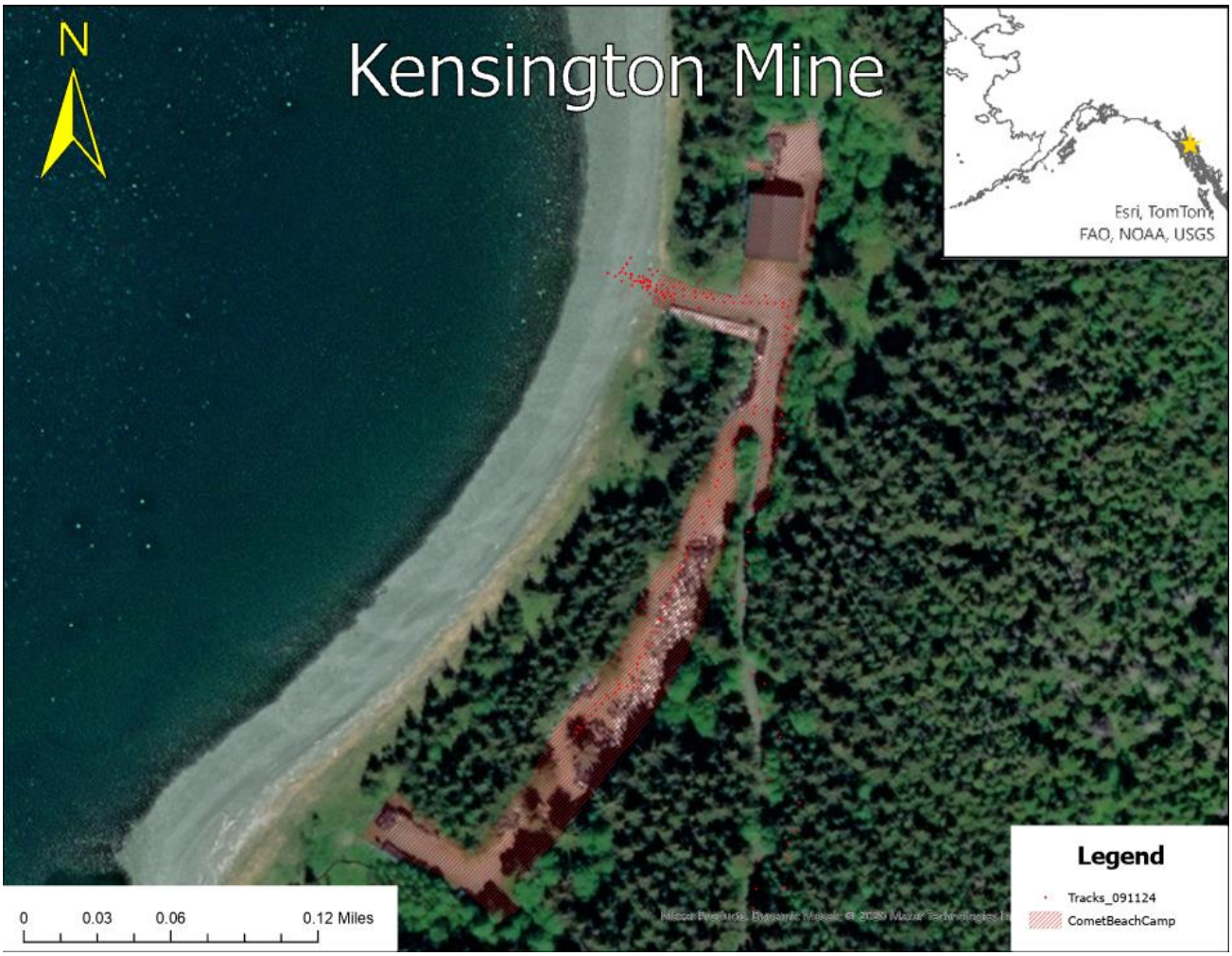
Map 4: Pit-4 WRS including GPSC, WRS, WRS Extension, Organic Stockpile, Mud Dump and Ponds, Bridge 1 and Pit 4 Ponds, and Inspection Tracks. Note: GPSC – Graphitic Phyllite Storage Cell, WRS – Waste Rock Storage, WTP.



Map 5: Jualin Portal, Tailings Pipeline, and Snow Glide Gulch Avalanche Control Point.



Map 6: Comet Area including Outfall 001, WTP, WTP ponds, Comet Portal, WRS, WRS Expansion, and Inspection Tracks. Note: WTP = Water Treatment Plant, WRS – Waste Rock Storage.



Map 7: Comet Beach Camp and Core Storage Area.

Field Inspection Observations of Note with Photos in Sequence of Inspection

Photo 1: Tailings Treatment Facility (TTF) and TTF Dam with views of tailing mounds above the water surface at time of inspection. Disturbance in the form of clearcutting east of the TTF. Disturbance below the dam is associated with construction of the new spillway location.

Photo 2: View of the TTF Dam West Abutment including cover of graphitic phyllite (exposed during original excavation), TTF Dam Crest, Spillway Chute, and tailing mounds above the water surface.

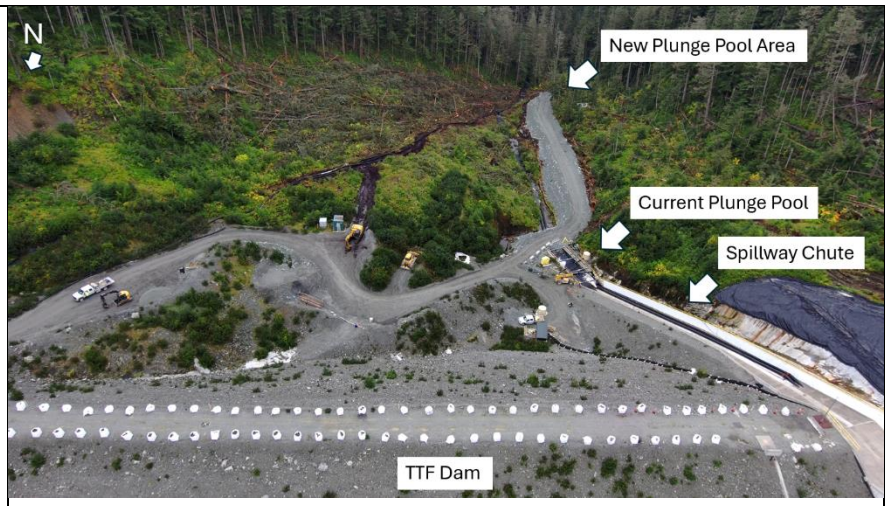
Photo 3: Southerly downstream view of the TTF Dam, New Plunge Pool Area, Current Plunge Pool, Spillway Chute, and clearcut, disturbed land. Note the seepage pump at the toe of the dam.	
Photo 4: Wider southerly view of the TTF Dam, TTF, and tailing mounds above the water surface. Note the clearcut, disturbed land to the east of the TTF and below the dam. Trees were cut down but not removed along the east side of the TTF from the new WTP Area to the main dam and beyond to the new plunge pool area for the expansion to construct the next dam lift and elevate the access road.	

Photo 5: Another view of clearcut, disturbed land east of the TTF for the expansion to construct the next dam lift and elevate the access road.	
Photo 6: View of the Back Dam, Current Water Treatment Plant (WTP), and New WTP Area. Note the organic material stockpile to the west of the Back Dam. The footprint of the New WTP Area has changed considerably since the June 2024 inspection.	

Photo 7: A closer view of the Back Dam and WTP including Upper Slate Lake in the background. To the west of the Back Dam is an organic material stockpile. To the south is the TTF.	
Photo 8: View of the New WTP Area.	

Photo 9: Slate Cove Marine Terminal (Kensington Port) staging area, gangway, and various breasting dolphins.	
Photo 10: Pit 4 Waste Rock Storage (WRS) including views of the Sediment Pond, Pit 4 WRS Expansion Area, Bridge 1 Ponds, and Pit 4 Pond.	

Photo 11: A different view of Pit 4 WRS, Bridge 1 Ponds and Pit 4 Pond.	
Photo 12: Another view of Bridge 1 Ponds and Pit 4 Pond from above Pit 4 WRS. Johnson Creek flows under Bridge 1.	

Photo 13: Activity at the Pit 4 WRS Expansion Area.	
Photo 14: Pit 4 WRS, with views of the Mud Dump, Organics Stockpile, Pit 4 highwall, and where Graphitic Phyllite is/was being stored/removed.	

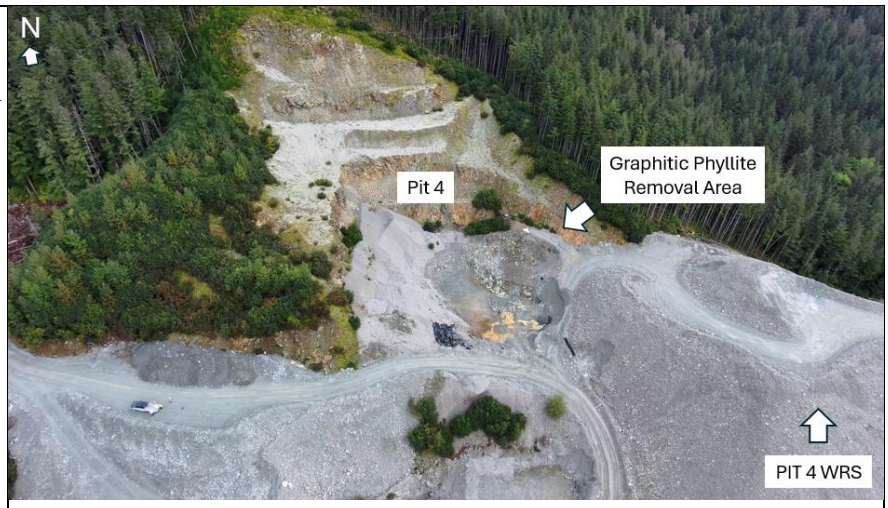
Photo 15: Graphitic Phyllite Removal Area. Very little of this material is left at time of inspection. Almost all this material has been transported underground for disposal.	
Photo 16: Organics Stockpile near Pit 4.	

Photo 17: Jaulin Portal	
Photo 18: Tailing Pipeline Repair	

Photo 19: Snowslide Gulch	
Photo 20: Comet Portal and WRD.	

Photo 21: Comet WRD, WTP, and cleared Expansion Area.	
Photo 22: Outfall 001 effluent discharge hoses.	

Photo 23: Outfall 001 effluent discharging directly into Middle Sherman Creek.	
Photo 24: Middle Sherman Creek below Outfall 001 effluent discharge.	

Photo 25: Comet Beach Camp and Core Storage. There is a significant increase in core boxes being stored in the storage yard than in the last inspection.	
Photo 26: Comet Beach Core Storage continued.	

Photo 27: Comet Beach Core Storage continued.