



INSPECTION REPORT: KENSINGTON GOLD MINE

Tongass National Forest Minerals Group
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Date of Inspection: Tuesday April 18, 2017
Date of Report: Tuesday May 2, 2017
USDA Forest Service Inspector: Richard Dudek

Ranger District: Juneau Ranger District
Weather Conditions: Sunny. Temperature: Low 40's °F.

Exploration in accordance with operating plan	Not Applicable
Timber removal following timber sale contract	Not Applicable
BMPs for erosion control	Satisfactory
Water Quality BMPs	Satisfactory
Public safety & fire prevention	Satisfactory
Reclamation work adequate and timely	Satisfactory
Roads maintenance adequate and current	Satisfactory
Tails placement in accordance with plan	Satisfactory
Waste Rock placement in compliance	Satisfactory
Company supervision of operation	Satisfactory
Operating in a clean and orderly manner	Satisfactory

Any conditions noted as UNSATISFACTORY will require follow up action by the Mine Inspector and a written memorandum to the operator, outlining the necessary work.

NEW REMARKS

Ward Air provided transportation (de Havilland Beaver floatplane) to/from site.

Kevin Eppers (Senior Environmental Engineer, Coeur Alaska) accompanied Richard Dudek (Geologist, Forest Service), Edward Gazzetti (Hydrogeologist, Forest Service), and Curtis Caton (Geologist, Forest Service).

This inspection included the Access roads, Comet Development Pile, Comet water treatment plant, Sherman Creek Outfall, Kensington Development Pile, Kensington warehouse, Pit-4, TTF area, and the Fuel Depot.

NOTEWORTHY ITEMS:

The Pug plant and X-ray sorter will be online and operating at the end of April.
The 2017 surface exploration has begun at the Kensington Gold Mine (Photo 1).

ACTION ITEMS:

Sherman Creek outfall white material continues to precipitate in the creek.
Pond-1 silt curtain needs improvements.
At Pit-7, a section of the liner for the Graphitic Phyllite (GP) stockpile has separated and needs repair.
The corrugated waterline for the TTF's back pump is leaking water and needs to be repaired.





ACCESS ROADS

Ponding water and surface runoff flow paths are beginning to develop along sections of the access roads. Once thawing has occurred, road grading/maintenance will be frequently conducted to avoid degradation of the access roads (Coeur Alaska's 2016 BMP plan).

COMET DEVELOPMENT PILE

Coeur personnel continue to deposit waste rock from the Raven drift at the southern end of the development pile (Photo 2).

COMET WATER TREATMENT PLANT

Ponds 1 and 2 were receiving mine drainage (Photos 3-4). An underground fuel spill occurred and Coeur personnel placed a hydrocarbon containment boom in near outlet pipe for Pond-1 (See photo 3). A section of silt curtain in Pond 1 (See photo 3) is below water and needs to be raised up. The purpose of the silt curtain is to minimize the surface area for sediment accumulation in Pond-1.

The Comet water treatment plant was treating 900 gallons of water per minute (gpm). Coeur Alaska continues weekly monitoring of a rock suspended (Photo 5) above the test barrel to precipitate white material from treated mine water. The Comet water treatment plant personnel are currently bench-testing potassium chloride (KCl) as a coagulant due to its strong bond. Coeur Alaska anticipates that KCl may help remove the white material out of solution. A dewatering bag is still being used near the underground 445 level sump. Coeur anticipates that over time the dewatering bag may help reduce the amount of white material in solution prior to the water treatment process.

SHERMAN CREEK OUTFALL

White material continues to precipitate in the creek bed (Photo 6).

KENSINGTON BENCH AREA

Coeur Alaska continues to deposit waste rock at the Kensington development pile (Photos 7-8).

KENSINGTON WAREHOUSE

Coeur Alaska has begun storing chemicals for water treatment in the cold storage facility with secondary containment (Photo 9). Additional steel shelving will be eventually placed inside the facility to maximize the storage.

PIT-4

Coeur personnel were inspecting and performing maintenance on the Pug plant prior to bringing the plant online for the summer season (Photo 10). Coeur Alaska submitted a revised proposal for waste rock storage at Pit-4 (Photos 11). The State of Alaska agencies and the United States Forest Service are currently reviewing the proposal.

TAILINGS TREATMENT FACILITY (TTF) AREA

The TTF's water level was 699 feet and was mostly frozen over. The TTF water treatment plant was treating 500 gpm, and the reclaim water was 200 gpm.

A diesel fuel spill occurred on 12/22/2016 at the "day tank", and diesel fuel was observed in the tailings thickener and possibly made its way into the TTF. Since the spill occurred, no fuel sheening has been observed in the TTF. As a mitigation control, TTF water treatment plant's personnel keep a hydrocarbon containment boom in the water clarifier's outlet for possibly absorbing hydrocarbons (Photo 12). A





hydrocarbon containment boom will remain in the outlet until the TTF ice thaws and the surface can be thoroughly inspected for fuel sheening.

The TTF dam's pump back water line has leaks in it and needs to be repaired (Photo 13).

Due to warming temperatures, the seep plant was being brought online for treating acid rock drainage (ARD). The ARD is collected from the TTF dam plunge pool (Photo 14), and from the ARD catchments in the northern TTF area. The waste collected from the water treatment process is utilized as underground backfill and the treated water is discharged into the infiltration gallery near the TTF.

Due to the water level increasing in the northern TTF area, Coeur Alaska recently constructed a new ARD catchment (Photo 15).

PIT-7

A section of the liner for the GP stockpile has separated (Photo 16). The purpose of the liner is to minimize exposure of the GP to atmospheric conditions, which reduces oxidation and ARD generation.

FUEL DEPOT

Approximately 8 ounces of diesel fuel was observed below the fuel line for tank-5 (Photos 17-18). The leak possibly occurred at the gasket between two pipes near tank-5. An absorbent pad was immediately placed on the area where the leak occurred (Photo 19). The total discharge of fuel was less than one gallon and the leak occurred within the secondary containment area. Spills less than one gallon do not need to be reported. The following is the Alaska Department of Environmental Conservation (ADEC) regulatory requirements for reporting spills. Spills over one gallon reporting to land, spills over 55-gallons within secondary containment, and any spill reporting to water are reported to ADEC (Coeur Alaska 2016 Plan of Operations).

FOLLOW UP ITEMS

Inspect for possible leaks at the Fuel Depot.

Forest Service will continue observations for white material accumulation within Sherman Creek.

A liner completely covers the GP stockpile at Pit-7.

The silt curtain in Pond-1 is effectively working.

PHOTOS (Additional photos available upon request).





Photo 1. Surface exploration drill staged near the Kensington camp buildings.



Photo 2. Waste rock from the Raven drift.



Photo 3. Comet water treatment plant Pond-1.



Photo 4. Comet water treatment plant Pond-2.



Photo 5. Suspended rock used for monitoring white material accumulation.



Photo 6. White material observed in Sherman Creek.



Photo 7. Highlighted in red is the access ramp for the Kensington waste rock pile.



Photo 8. Kensington waste rock pile near the mill.



Photo 9. Kensington warehouse cold storage facility.



Photo 10. Pug plant at Pit-4. Coeur Alaska personnel were conducting inspections and maintenance prior operating the plant for the summer season.



Photo 11. Coeur Alaska's proposed area for Pit-4 waste rock storage.



Photo 12. A hydrocarbon containment boom placed in the TTF water treatment plant clarifier.



Photo 13. Highlighted in the red circles are the two leaks in the waterline for the TTF back pump.



Photo 14. TTF dam plunge pool.



Photo 15. A new ARD catchment located in the Northern TTF area.



Photo 16. A GP stockpile at Pit-7.



Photo 17. A small fuel leak was observed below the fuel line near tank-5.



Photo 18. The fuel leaked onto the gravel bed of the fuel depot.



Photo 19. Hydrocarbon absorbent pads were placed on the area where the fuel leaked onto the ground.

Thanks to Kensington Mine for a safe visit.
U.S. Forest Service Officer: /s/ Richard Dudek
