INSPECTION REPORT: KENSINGTON GOLD MINE

Tongass National Forest Minerals Group
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Date of Inspection: Wednesday July 6, 2016
Date of Report: Thursday July 28, 2016
USDA Forest Service Inspector: Richard Dudek

Ranger District: Juneau Ranger District
Weather Conditions: Sunny Temperature: Mid 50's to low 60'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 to (De Havilland Beaver Floatplane) and from (Cessna 206) site.

Peter Strow (Environmental Operations, Coeur Alaska) accompanied Matthew Reece (Minerals Program Manager, Forest Service), Curtis Caton (Geologist, Forest Service), and Richard Dudek (Geologist, Forest Service).

This inspection included access roads, Comet Development Pile, Comet water treatment plant, Sherman Creek Outfall, Reclamation test plots, Mud Dump, Pit 4, Pit 7, and the TTF area.

ACTION ITEMS:

- **Comet water treatment plant: improvements to stormwater diversion ditch**
- **White Material at Sherman Creek Outfall**
- **Pit 4: Graphitic Phyllite (GP) stockpile liner requires repairs to tears and/or adjustment to ensure GP material is not exposed.**

NOTEWORTHY ITEMS:

Jualin Drift: The current advancement is 2734.3 feet and the current elevation at the face is 588 feet.

ACCESS ROADS

The access roads for both Kensington and Comet locations are in adequate condition and comply with Kensington's BMP plan (Table 4-4 page C-16).

COMET DEVELOPMENT PILE

Coeur Alaska began expanding the South-West section of the toe in early 2016 (Photos 1-2). Coeur Alaska continues to add waste rock to the expansion pile.

COMET WATER TREATMENT PLANT

The Comet water treatment plant is currently treating approximately 900 gallons of water per minute. During this inspection, both Pond-1 and Pond-2 were actively receiving influent water (Photos 3-4). It was observed and documented that white residue was on the liner of Pond-1 (Photo 5).

Inside the Comet water treatment plant, white material was observed on the sealed non-porous concrete floor (Photos 6-7). Coeur is currently bench testing different flocculants and coagulants for removing the white material during the water treatment process. The bench test control at the Comet water treatment plant is a 55-gallon barrel filled with rocks and water used for monitoring white material binding to rocks (Photo 8). Different flocculants and coagulants are also being tested at the underground triple sumps to help the white material settle out of solution.

A diversion ditch behind the Comet water treatment plant needs additional improvements for storm water conveyance (Photos 9-10).

All chemicals and petroleum products are stored within secondary containment (Photo 11).

SHERMAN CREEK OUTFALL/COMET BEACH

White material was again observed in Sherman Creek (Photos 12-14) during this inspection. Approximately 10 gallons of soil/white material that accumulated under the leaky outfall hose was removed and disposed of within the Comet development pile (Photos 15-16). However, additional white material was observed under other outfall hoses (Photo 17). No white material was observed at the mouth of Sherman Creek (Photos 18-19).

JUALIN ORE PAD

The Jualin ore pad was active with front-end loader transporting ore rock to the crusher for mineral processing (Photo 20).

RECLAMATION TEST PLOTS

The three waste rock revegetation test plots (Photo 21) were developed as a quantitative approach to monitor growth potential of native plant species (Reclamation plan Appendix 1). The same seed mixture was applied to all three plots, however the soil amendments differ for each plot. Plot-1 is a fertilizer, mulch mixture, Plot-2 is a seed only application, and Plot-3 is a seed and biopolymer application. The three reclamation test plots did show grass was germinating. Further review of the test plots by plant specialists from the agencies is necessary to evaluate their success.

MUD DUMP
The tears in the Graphitic Phyllite (GP) liner, documented in the 06/08/2016 inspection report, have been repaired (Photo 22). The site was tidy and in order.

PIT 4
Coeur Alaska is currently adding more structural steel for the Pug plant to help compensate for snow load (Photo 23). The GP stockpile liner is in need of repair. There were two tears observed towards the bottom left side of the stockpile, a top right section of the liner was partially uncovered with GP material exposed (Photo 24). Pit 4 is also the location for the x-ray sorter, which is used to reclaim mineralized pebble reject. The total amount of pebble reject that has gone through the x-ray sorter is 70,110 short tons. The total amount of reclaimed mineralized rock from the x-ray sorter is 5,219 short tons. The reclaimed mineralized rock is sent to the Jualin mill for processing. The x-ray reject rock that is still below the cutoff for the economic grade, is used for access road base material or shipped off site.

PIT 7
The liner for a GP material stockpile that was partially uncovered, which was documented in the last inspection report on 06/08/2016, has been fixed (Photo 25). The site was tidy and in order.

TTF AREA
The water level for the TTF was 694.3 feet (Photos 26-27). However, an area of apparently shallow water cover was identified. It was documented from the previous inspection on 06/08/2016, that below the TTF dam, a liner for GP material was partially uncovered. The liner has been re-aligned and is now covering the exposed GP rock (Photo 28).

At the northern section of the TTF, acid rock drainage (ARD) (Photo 29) was being pumped to the first of two holding tanks. The ARD is transported to the seep plant where it undergoes treatment and piped to the infiltration gallery near the TTF. The sludge waste collected during the ARD treatment process is used as underground backfill material. The pH for the ARD is approximately 7.0-7.5. The concern is not with the pH levels, but with the high levels of heavy metals (Cadmium, Manganese, and Iron) in the water.

At the time of inspection, the TTF water treatment plant was treating 1150 gallons of water per minute (Photo 30). The water treatment plant facility was tidy and in order. All outside storage containers for chemicals and petroleum products are also stored in appropriate secondary containment (Photo 31).

FUEL DEPOT
Contractors have begun excavating the area for the fuel depot location (Photos 32). Since the July 6, 2016 inspection, Coeur Alaska has decided not to modify the construction. The fuel depot will be constructed with a liner under the facility and the fuel tanks placed on compacted gravel. This is the approved construction design stated in the Record of Decision for the 2014 Kensington Fuel Depot Environmental Analysis (EA).

PHOTOS (Additional photos available upon request).

Photo 1. The area within the highlighted line is the location for the Comet development pile toe expansion.

Photo 2. Comet development pile South-West toe expansion.

Photo 3. Pond-1 with a silt curtain for sediment area reduction.

Photo 4. Pond-2.

Photo 5. Pond-1 liner with white material.

Photo 6. White material buildup observed on the sealed nonporous concrete floor.

Photo 7. White material on the concrete floor of the Comet water treatment.

Photo 8. Control test for white material removal.

Photo 9. Diversion ditch behind the Comet water treatment plant.

Photo 10. Diversion ditch located behind the Comet water treatment plant.

Photo 11. Storage container with secondary containment.

Photo 12. White material coating rocks within Sherman Creek bed

Photo 13. Zoomed image of white material covering a rock in Sherman Creek.

Photo 14. White material in Sherman Creek.

Photo 15. Approximately 10 gallons of Soil and White material was removed.

Photo 16. Zoomed in image showing most of the white material removed.

Photo 17. White material observed under other outfall hoses.

Photo 18. Comet beach/Sherman Creek.

Photo 19. Comet Beach/Sherman Creek no white material observed.

Photo 20. Front-end loader translocating ore rock to the Jualin mill.

Photo 21. Three reclamation test plots.

Photo 22. Mud Dump GP liner repaired.

Photo 23. Plug plant structural steel construction.

Photo 24. Pit 4 GP liner tears and a section of the liner partially uncovered.

Photo 25. Pit 7 GP liner repaired.

Photo 26. TTF water level is 694.3 feet.

Photo 27. TTF tailings placement barge.

Photo 28. TTF GP material cover.

Photo 29. Zoomed in image of an ARD catchment at the northern section of the TTF.

Photo 30. TTF water treatment plant.

Photo 31. TTF water treatment plant.

Photo 32. New fuel depot location.

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