INSPECTION REPORT: KENSINGTON GOLD MINE

Tongass National Forest Minerals Group
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Date of Inspection: Wednesday, February 17, 2016
Date of Report: Tuesday, March 8, 2016
USDA Forest Service Inspector: Richard Dudek

Ranger District: Juneau Ranger District
Weather Conditions: Sunny. Temperature: Low 30'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/from site.

Kevin Eppers (Environmental Manager, Coeur Alaska) accompanied Curtis Caton (Geologist, US Forest Service), and Richard Dudek (Geologist, US Forest Service) on this inspection.

This inspection included access roads, Comet Development Pile, Jualin Development Pile, Sherman Creek Outfall, Comet Beach, Pit 4, Tailings Treatment Facility (TTF) and the GP Seep treatment facility.

ACTION ITEMS

- No immediate action items found during this inspection.

ACCESS ROADS

The Jualin, Comet and TTF access roads are in poor condition with no signs of road grading. During inspections, some sections of the access roads that had potholes and washboarding roads, which will increase erosion and sediment transport. It is important that road grading frequently take place as stated in the 2012 BMP plan, Appendix C ***Alternate Sediment Control Measures*** (page C-55).

COMET DEVELOPMENT PILE

Coeur Alaska has recently expanded the southwest toe section of the Comet Development Pile for development rock storage (Photo 1). The toe expansion will be constructed by a lift method of deposits to create the base of the toe. This method involves end dumping the waste rock, then bulldozing the pile into a flat and compacted the layer. This method is repeated several times to create a more compacted base layer. In addition to waste rock being permanently stored at the Comet Development Pile, the water treatment plant's byproduct material (filter press cakes) are also stored into the development pile. This complies with Coeur Alaska's **2012 BMP plan found on page 18; section 4.2.4** treatment for waste disposal to assure against any discharge of contaminates flow into navigable waters (Photo 2).

COMET WATER TREATMENT PLANT

Coeur Alaska recently installed an ammonia treatment system in the Jualin adit which treats approximately 20 gallons per minute. The source of the ammonia problem is a resultant of underground blasting. After the ammonia treatment process, the water is piped to the mine drainage system which drains to the triple sumps. The water is then transferred to the Comet Water Treatment plant which is receiving approximately 1000 gallons per minute. Plant 2 acted as the primary treatment plant while plant 1 was offline for maintenance.

SHERMAN CREEK

White material was visible again in the streambed of Sherman Creek during this inspection (Photo's 3-6). During the site inspection, trace amounts of white material was observed at the mouth of Sherman Creek (Photo 7). The white material may be a result of mucking the sumps at the 445 level, which remobilized the sediment into the mine drainage. Coeur Alaska is currently bench testing different treatment methods for settling the white material out at the underground sumps.

JUALIN DEVELOPMENT PILE

Ore and reject rock from the milling process are temporarily stored at the Jualin Development Pile (Photo 8). Coeur will rerun the reject rock material through an X-ray sorter to recover any remaining mineralized rock.

PIT 4

The reject rock that is still below cutoff grade for the milling process after the X-ray sorter is stockpiled at Pit 4. Some of the reject rock removed is sent to a cone crusher which will crush the rock into a more angular shape and planned to be utilized as road base material. The use of this angular rock or competent material will allow more surface compaction and stability for access road as stated in Coeur Alaska's **2012 Plan of Operations (pages 66-67)**. Some reject rock from pit 4 has been recently removed and stored at

borrow pit's 1, 2, and 3. The reject rock stockpiled at pit's 1 and 3 is intended to be shipped off site and used as a construction gravel aggregate.

TAILINGS TREATMENT FACILITY

The TTF had minor ice coverage and no tailings were visible in the TTF. A back pump system is used for capturing seepage around the toe and abutments of the TTF dam (Photo 9). The back pump system pumps the seepage back into Lower Slate Lake. The GP sump system is for capturing (ARD) in the TTF spillway (Photo 10). The captured ARD is pumped to the GP seep plant, the water is then sent to an infiltration gallery near the TTF. At the TTF spillway, effluent water from the water treatment plant and Upper Slate Lake were entering the Slate Creek outfall (Photo 11). The temporary dam spillway had snowmelt and minor amounts of ARD accumulating into the plunge pool (Photo 12).

The GP stockpile located at the northern section of the TTF is from the stage 1 and stage 2 TTF dam construction. At the base of the GP stockpile, ARD was seeping through the pile and into a poly-lined catchment (Photo 13 -14). The captured ARD is then pumped to a series of holding tanks. A tanker truck pumps the ARD from the larger holding tank and hauls it to the GP seep treatment plant. The GP seep plant will be fully online this spring and the older GP seep plant will be decommissioned.

FOLLOW UP ITEMS

- **Sherman Creek Outfall**

PHOTOS (available upon request)

Photo 1. Comet development Pile southwest toe expansion.

Photo 2. Sediments the water treatment plant are deposited into the development pile to prevent pollution discharge.

Photo 3. Sherman Creek Outfall. White material covering streambed rocks.

Photo 4. White material accumulation covering rocks.

Photo 5. Upstream view of Sherman Creek Outfall with white material covering rocks.

Photo 6. White material scrapped off shows a gradual accumulation.

Photo 7. Traces of white material covering rocks at the mouth of Sherman Creek.

Photo 8. Reject rock stored at the Jualin Development Pile.

Photo 9. TTF Dam pump back system.

Photo 10. TTF GP-ARD Seepage sump system.

Photo 11.Temporary TTF dam spillway/plunge pool.

Photo 12. Upper Slate Lake diversion and the water treatment plant plunge pool.

Photo 12. Northern TTF ARD catchment.

Photo 13. Diesel generator used to power the northern TTF ARD pump.

Photo 14. Secondary containment inside the GP seepage treatment plant.

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