



Report Date: July 30, 2015

Weather Mostly Cloudy, Light Wind, Mid-50's F

Operator Contact: Kevin Eppers – Couer Alaska

Inspection Team David Wilfong – ADNR , Matt Reece and Curtis Caton – USFS

Inspection Objectives: General Inspection

This report covers two trips to the Kensington Gold Mine. However, information from two previous inspections (9/14 and 6/15) is included for informational context. The first was on July 8, 2015 for the trip associated with Agency Annual Meeting, and covered most of the site. The second was an impromptu trip on July 20, 2015 and covered the Tailings Treatment Facility (TTF), Pit 7 and Pit 4. This report will cover only those parts of the Mine visited on July 20, and what was observed at the TTF on July 8. Transportation to and from the Mine on July 8 was provided by a Coeur Alaska leased, Goldbelt Native Corporation operated catamaran. Transportation to and from the mine on the July 20 was provided by a United States Forest Service (USFS) chartered Cessna floatplane operated by Ward Air.

Context

Tailings exposed to the air were observed by the agencies during a regular inspection performed on June 17, 2015¹. At that time, only two piles of tailings had daylighted about 1 foot above the surface of the water (Figure 1). The approved Plan of Operations and Reclamation Plan require at least 9 feet of water cover. During an earlier inspection in October 2014, water cover was estimated to be only 4-6 feet as stated in the resulting Inspection Report². During the months occurring between October 2014 and June 2015, the TTF water level had dropped several feet to expose the tailings located near the upstream face of the Dam. The unusual drop in the water level is likely due to an abnormally low snowpack during the winter of 2014-2015. Typically, the level of the water rises during the spring breakup. But, in 2015, the rate of water discharged from the water treatment plant (WTP) exceeded the infiltration of water into the TTF. The resulting drop in the water level exposed the tailings that were seen under the water's surface in October.



Figure 1 Exposed tailings during the June 17, 2015 inspection.

¹ See report dated July 23, 2015.

² See report dated October 1, 2014.

July 8, 2015

Upon arriving at the TTF on July 8, the team observed that a substantially larger volume of tailings had become exposed in the three weeks since June 17 when the exposed tailings were first observed by the agencies. The larger volume of exposed tailings was due to a drop in the water level, and Coeur was actively dredging tailings on July 8 to redistribute them to deeper areas of the TTF in an effort to establish 9 feet of water cover. Due to the dredging operation, the water was too turbid in the area of the dam to ascertain whether or not more piles of tailings would become exposed if the TTF water level continued to be drawn down. However, what appeared to be a lone root-wad of a small tree, was sticking above the surface indicating that another tailings pile may be lurking just below the surface.



Figure 2 Exposed tailings on July 8, 2015



Figure 3 Tailings on the Crest of Stage 1



Figure 4 Tailings undergoing dredging operations



Figure 5 Exposed tailings near the west abutment

Six different mounds of tailings were protruding above the surface, but were limited to 3 main areas near the dam (Figure 2).

A bathymetric survey performed in May 2015 shows a depression in the tailings not far to the north, and watching the operation, it appeared that Coeur was attempting to settle the dredged tailings in that area. The dredge was a floating suction device with a rotating agitator on the front. The agitator contacts the tailings and “breaks up” the particles, which are sucked into a tube as a slurry. The tailings slurry is pumped through a pipe suspended below floating buoys, and deposited in a deeper area of the TTF. It is unknown how much volume of tailings must be moved, and it can change as the water elevation in the TTF rises or falls.

July 20, 2015

Upon arriving at the mine site during an inspection on July 20, the team was driven straight to the TTF. Upon arriving at the dam, exposed tailings could be seen on the crest of Stage I (Figure 6), but the “islands” of tailings that had been exposed during the July 8 trip were not visible. However, mounds of tailings could be seen just under the surface of the translucent water (Figure 7). Significant progress had been made to inundate the exposed tailings with water, but no active dredging was occurring. Kevin stated that the dredge was damaged, and a part was being expedited so it could be repaired and return to work. Although the water level in the TTF had dropped even further during the previous 12 days, the mounds of tailings

that had been exposed on July 8 were now underwater. Kevin stated that Coeur had focused on getting exposed tailings re-submerged before working to move the bulk of the material.



Figure 6 Tailings on the Stage I crest on July 20



Figure 7 Tailings under the water's surface

Impressions of what appeared to be bird tracks could be seen in the tailings resting on the crest of Stage I (Figure 8). It was suggested that a fire hose could be used to wash the tailings back into the water so terrestrial and airborne animals could not access the tailings easily. After discussing the situation and photo documenting the area, the team loaded into the pickup and drove toward the north end of the TTF. The team moved on to the north end of the TTF where the potentially acid generating graphitic phyllite was placed during the construction of Stage II of the dam. The water seeping from the toe of the pile was distinctly orange in color, and testing shows that it continues to have a low pH. The water is pumped to a storage area where it is transferred to a WTP,



Figure 8 Animal tracks in the tailings

treated, and discharged to an infiltration gallery near the dam.

The team left the TTF and stopped at Pit 7 for a short time. Wasterock from the mine is now being staged at Pit 7 for the upcoming construction of Stage III raise of the dam (Figure 10). 160,000 tons of the diorite wasterock is needed for the construction, and a significant effort is needed to move it from the mine and place it in Pit 7. Coeur has hired a contractor to do the work, haul trucks bring the rock to Pit 7 where it is dumped, and spread in lifts with a dozer.

Moving on, the team stopped at Pit 4. A concrete pad had been built, and a steel structure designed to house the pebble reject x-ray sorter had been installed on the pad (Figure 11). The x-ray sorter is a modular design and fits in a 40 foot shipping container. It is expected to arrive shortly, and will be used to separate economical pebbles, about the size of walnuts, rejected from the ball mill. About 10% of the pebbles are economical, and the rest will be mixed with concrete and graphitic phyllite in a pug plant and disposed of underground.

The team left Pit 4 and returned to the marine facility for a thirty minute wait for the floatplane ride home.

The Alaska Department of Natural Resources – Mining Section would like to thank the USFS and Coeur Alaska for providing Transportation to and from the mine, and Kevin Eppers for providing safe and informative trips



Figure 10 Staged Wasterock at Pit 7

Action Items:

- **Continue efforts to establish a water cover over the tailings as described in the reclamation plan.**
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