



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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File No: 1538.38.001

November 12, 2014

Bruce Howard
Avista Corporation
P.O. Box 3727
Spokane, WA 99220-3727

Re: Institutional Control Inspection – Stabilization Caps
Upper and Lower Cyanide Process Tailings Sites
Mexican Mine (Treadwell Mine Complex)
Hazard ID #405

Dear Mr. Howard:

In accordance with the institutional controls (ICs) in place at the above referenced site, Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) staff traveled to the site with Ron Pratt (Nortech) and Catherine Johnson (AJT Properties) to inspect the caps on the upper and lower cyanide process tailings areas on September 23, 2014. These inspections, specified in the 2008 Treadwell Mine Cyanide Tailings Stabilization Cap Inspection and Maintenance Plan, are required twice-yearly (in spring and fall) to ensure that exposure pathways related to the metals contamination at the site remain controlled. This letter documents our observations during the inspection and also documents ADEC's receipt of analytical results from surface water and sediment sampling in the vicinity of the two tailings piles performed voluntarily by AJT Properties in June 2013.

Upper tailings pile cap inspection

The upper tailings cap is intact with thicker vegetation than observed during the spring 2014 inspection. There is a shot-rock utility road running through the upper tailings pile. The log abutment that prohibits vehicle traffic remains in place and effective (photo 1 & 2).



Photo 1: upper tailings abutment



Photo 2: upper tailings road

During this site inspection stressed vegetation and discolored water were observed throughout the route of the intermittent drainage that exits the downgradient toe of the tailings pile and extends all the way to the lower road (photos 4 & 5). This appears to be due to runoff from the road/hillside being routed through the tailings, thereby transporting some of the heavy metal-laden silt from the pile itself downslope.

Please provide DEC with a plan to remedy this situation, which may consist of rerouting the drainage so that it no longer runs directly through the tailings pile but rather is routed along the road itself.



Photo 3: culvert input



Photo 4: culvert output

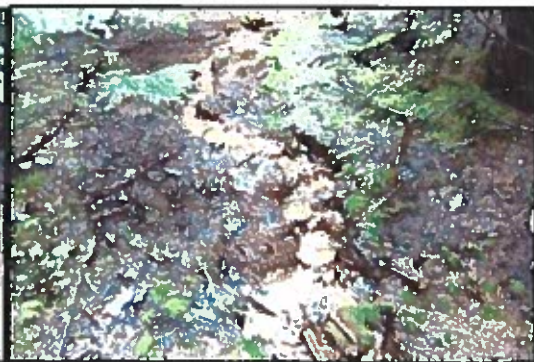


Photo 5: below culvert output

Lower tailings pile cap inspection

The lower site tailings cap remains intact with intermittent vegetation growing on the surface. The channel side of the tailings pile is contained with a sloped armor rock wall 4' high and 225' long (photo 7). There is a shot-rock utility road running through the capped pile that is used occasionally by the Alaska Canopy Adventures zipline business to transport customers and supplies to their lodge during certain periods of tidal fluctuations (photo 6 & 8). Normally the customers disembark from the boat directly in front of the lodge, but the road condition may signify vehicle usage more than occasional since there is no vegetation growth on this part of the cap.



Photo 6: road to the beach



Photo 7: sloped armor rock wall of lower tailings cap



Photo 8: road across the cap

Voluntary Sampling

In 2013 at the request of AJT Properties, NORTECH was retained to collect samples from the stream south of the tailings piles and to collect a sample of the sediment precipitating from the upper tailings pile. This sampling was not required by ADEC, but was intended to provide additional data to the historic body of data which exists. In the sampling report dated June 20, 2014, it mentions a poorly defined intermittent ephemeral drainage along the eastern edge of the upper tailings pile. This drainage is diverted from one side of the road and routed under the road and the tailings cap (photo 3). It exits downslope of the eastern side of the upper tailings (photo 4).

The analysis of the sediment sample taken from the discharge area downslope of the upper tailings pile showed concentrations of barium, cadmium, and lead below the ADEC cleanup levels. Concentrations of arsenic, chromium, mercury, selenium and cyanide from the sediment sampled exceeded the ADEC cleanup levels. The report also stated that these metal concentrations at this site are consistent with historic mining and cyanide leach processing of heavy metal ore from the Treadwell Mining deposits of the Juneau Mining District. The report concluded that:

The 2008 tailings cap project and subsequent drainage improvements have changed the drainage pattern through the area, reducing the amount of run-off from the upper tailings area, and decreasing the periods when water is present in the ephemeral drainage.

ADEC finds that the soil cap and long term maintenance plan on the upper and lower tailings sites can continue to provide an effective site control remedy with maintenance and modifications as needed and observed. However, in advance of the next tourism season, please provide DEC with a plan to remedy the offsite migration of metals-laden leachate which is causing distressed vegetation throughout its path. This may consist of rerouting the drainage and diversion culvert away from the upper tailings cap so that runoff no longer flows through the tailings pile but rather is routed along the road itself. In addition, please provide specifics about the frequency of the road usage at the lower tailings cap.

The next IC Maintenance inspection is scheduled to be completed before the start of the tourist season in the spring of 2015.

Please don't hesitate to contact me if you have any questions.

Sincerely,



Evonne Reese
Environmental Program Specialist

cc: Ron Pratt (Nortech)
Catherine Johnson (AJT Properties)
Sally Schlichting, DEC Contaminated Sites Program