STATE OF ALASKA/

DEPT. OF ENVIRONMENTAL CONSERVATION DIVISION OF WATER

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Inspection Report Pebble Copper Mine Site

Facility: Pebble Copper Mine by Northern Dynasty Minerals and Hunter Dickinson Group from Vancouver, BC <u>http://www.hdgold.com/hdi/Home.asp</u>

Location: Latitude: 59.89833; Longitude: -155.29611

Date of Inspection: 6/14/2006

Permit Number: 2004DB0063

File Number: 2560.62.001

Purpose of Inspection: General site inspection

People Present: Susan McNeil (ADEC inspector), Cindy Anderson (ADNR), Kerwin Krause (ADNR), Bill Cole (ADNR), Mike Smith (environmental consultant for NDM), Frank (Helicopter pilot) and Richard Moses (Project Manager)

Facility Contact: Richard Moses

Samples Taken: No samples were taken

Weather: 55°F, partly cloudy.

Summary: After landing at the Illiamna Airport, our group was split into two parties and into two different helicopters to view previous years' drill sites and current drill operations. At 2:10pm we took off from the airport to fly over the general operation and to land at the two active drill sites.

Both parties landed at places that were active drill sites in 2004 and 2005. The ditches had been filled, tundra mats replaced, and seed planted. They showed little sign of ever been a drill site; only orange painted stakes were visible to mark past drilling activity. We stopped at an overlook of the future sediment basins, which will help to protect the nearby salmon streams. Richard pointed out the proposed mill facility far uphill and the proposed tailings location below the mill. The proposed mine will probably be both underground and on the surface, depending on deposit locations. Drills have reached deposits nearly 6,000 feet below the surface.

Drill one had a two man crew. Quest America Drill Company has the contract to drill the exploratory holes for assaying the Pebble mineral deposit. They were drilling and pulled up cores as we visited the site. Fresh water was used from a nearby pond for drilling operations. Unused

fresh water drained into one of the drainage ditches to the sump. Freshwater was mixed with bentonite in the black mixing tank which goes down the drill hole. When this mixture flows back out of the hole, it is captured in a separate tank for recycling back into the drilling operation. Overflow is captured in a third tank to settle fines before muddy water flows into a ditch to the sump. Overflow was captured with earthen berms. A large pump moved water uphill from the sump approximately 1000 feet to an upland pond. No seepage of sediment laden water was visible on the tundra. Fuel was stored appropriately.

Drill three had become an artesian well when the drill hit pressurized underground water. Before we landed the drillers said water spurted 20 feet into the air. When we arrived water was flowing from the drill hole through a hose to a ditch flowing into a sump. The sump was overflowing onto the tundra. No erosion from this flow was visible. The company had two workers on site to collect foam and other debris before it flowed onto the tundra. At the same time, a large pump moved water from the sump to an upland pond. A trench near this pond diverted any water that may flow into surrounding tundra. The drillers received concrete to fill the drill hole at water level to stem the flow of water to the surface. Richard thought perhaps the water was flowing at a rate fast enough to cut around the drill and erode a larger void which will need to be filled. We left as the drillers mixed concrete to pour into the hole.

We returned to the airport at 4:30pm.

FIGURES:



Figure 1. Aerial view of future Pebble Mine.



Figure 2. Drill site 1, fuel storage.



Figure 3. Drill site 1, water is recycled in a tank; wastewater and fresh water flow in ditches to a sump.



Figure 4. Drill site 1, wastewater is pumped uphill from the sump approximately 1000 feet to an uplands pond.



Figure 5. Drill site 3, water is pumped from the sump to a pond uphill.

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Figure 6. Drill site 3, workers remove foam and other debris from sump overflow.

Action Items: None

Compliance Status: Not applicable, no permit issued.

cc:

Richard Moses, NDM Cindy Anderson, ADNR Kerwin Krause, ADNR Bill Cole, ADNR