STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING, LAND AND WATER

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Pebble Project Inspection

Date: September 26-27, 2007

Department of Natural Resources Personnel: Bill Cole and Kerwin Krause

Report written by: Bill Cole

Overview

On September 26 and 27, 2007 Bill Cole and Kerwin Krause conducted an inspection of the Pebble Cu-Au-Mo Project near Iliamna. On arrival Kerwin Krause was given a safety briefing, and after lunch we were flown by helicopter to the project site. Bob Cluff, Northern Dynasty project manager, accompanied us for the first afternoon. We also had ample opportunity to talk to Mr. Cluff and ask questions over the two-day inspection. Once again, we found the project overall to be a clean, well run operation with minimal disturbance to the environment.

Over the two days we inspected all seven exploration drills. Five drills were operating at the time; two were down waiting for parts. We also inspected water intake sites and discharge areas, including the depressions into which Northern Dynasty has been disposing much of their drilling fluid. On the afternoon of the 26th we visited two drills and the main fuel storage site at Big Wiggley Lake, then flew over to the valley west of the mineral deposit which is a possible tailings pond site. We flew over a geotechnical drill operating in the valley, but did not land. The last part of our afternoon inspection was an overflight of Upper Talarik Creek. On the 27th we spent approximately five hours walking over the project area, visiting the remaining five drills, inspecting old drill sites, and looking at water intake facilities and discharge areas. We also visited the discovery outcrop area over the West Orebody. Gary Martello, of Northern Dynasty, accompanied us on our walk. For a more detailed overview of the Pebble deposit and operation, see the July 26-27, 2007 report by this author.

Drill Inspections

At the time of our inspection, drills number 6 and 7 were waiting on parts and not operating. All other drills were working. During our inspections we looked for the following items at each drill site.

- General appearance - does the rig look to be in good order? Are there any obvious problems, like a spill of a petroleum product?
- Fuel storage - Is all fuel stored in proper primary and secondary containment structures? There are generally several fuel containers, including one for the crew shack. Diesel fuel for the drill rigs is helicopter slung into an aluminum container in 118 gallon, double walled aluminum tanks, then pumped into a larger adjacent tank. The larger tank is situated within a heavy plastic liner for secondary containment. The metal containers are used to prevent tears in the plastic during slinging operations. (See photos #1 and 2.)
- Each rig should have both a spill kit and a scrubber barrel. If the water pump is any distance from the rig, it should have these items as well. (See photos #3 and 4.)
- How does the water supply look? Are there any fuel leaks, etc? If water is being drawn from a body that could have fish, we look for a screen, although they are not always visible in the water. (See photo #5.)
- How does the sump look, and how are drilling fluids being discharged? Even for the holes where fluids are being recirculated, (See Drilling Discharge, below.) there is usually fluid discharge since many holes do make some amount of water. (Note: this water production does not constitute an artesian flow unless water flows to the surface when drill circulation is stopped. While drilling, water may enter the borehole with an insufficient hydrostatic head to reach the surface, but be lifted to the surface with the drill circulation. It then becomes excess that must be disposed of.)

In the course of our inspections we noticed that the water intake pump at drill #5 did not have a spill kit. The pump was 80-100 yards from the drill, and should have one. The problem was mentioned to both Gary Martello and Bob Cluff, and will be fixed.

On September 10, 2007 Northern Dynasty had a 12 gallon diesel spill at drill #5. The spill was excavated and removed to a disposal site in Oregon. Photo #6 shows the cleaned up spill site. Separate reports of the spill and clean up have been submitted to both the Department of Natural Resources and the Department of Environmental Conservation.

Drill #5 was the only rig taking water from a possible fish bearing lake during our inspection. There were three intake lines in the lake, including a submersible electric pump. All three intakes were seen to have fish screens. (See photo #5.)

Photo #1. A drill crewmember pumps fuel from 118 gallon aluminum slinging tank into main fuel storage tank at drill #4. Note that the sling tank is in a metal containment. The main fuel tank is in the yellow plastic containment.

Photo #2. Fuel tank and containment for crew quarters on drill site.

Photo #3. Gary Martello processing water from a containment berm through a scrubber barrel to remove any petroleum products. All containment berms are cleaned by this process as needed after rains.

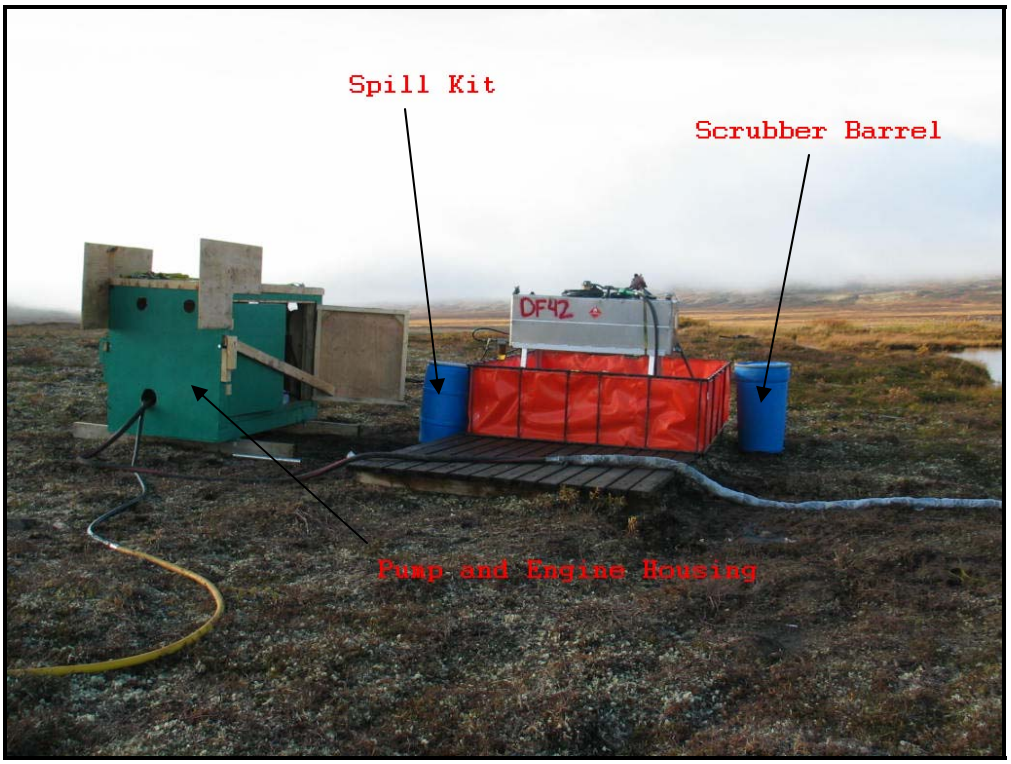

Photo #4. Spill kit and Scrubber barrel at water intake for pump #4. Note that engine and pump are kept in a wooden containment held off the tundra by timbers.

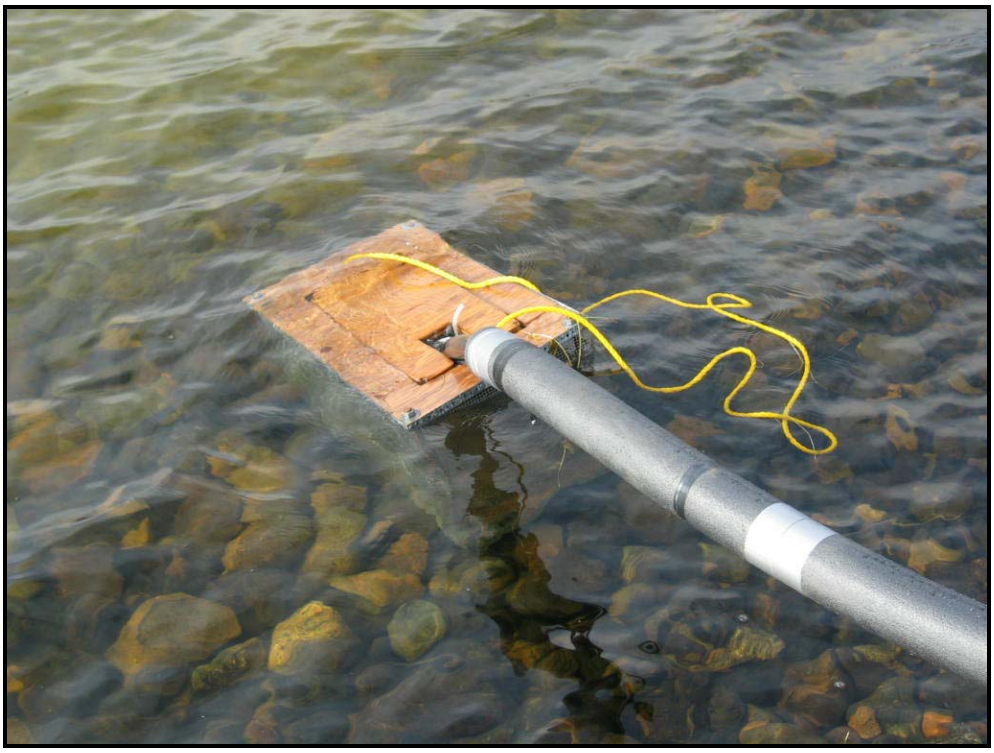

Photo #5. Fish screen on water intake at drill #5.

Photo #6. Sit of September 10, 2007 fuel spill at drill #5.

Drilling Discharge

Northern Dynasty has made considerable effort to keep drilling fluids out of wetlands and water bodies. We have not observed any visible pollution of wetlands or water bodies by drilling discharge.

Fluids from most drill holes are being pumped to previously dry depressions on high ground for disposal. At the time of our visit, two such depressions were in use. Small ponds adjacent to the discharge sites remain clear, indicating that either the drilling fluids are not flowing toward these nearby ponds or that the ground is effectively filtering the discharge waters before they reach the ponds. (See photos #7-9.) During our inspection drill #3 was being discharged over a small rise onto the Tundra. We flew over the discharge site on the afternoon of the 27th, and the discharge was being absorbed into the tundra well before reaching any wetlands. (See photo #10.)

A few drills are recirculating their return fluids. (See photos #11 and 12.) Recirculation requires a larger sump, and one or two large tanks for mixing the mud. Recirculating the returns saves a considerable amount of discharge, but not all, because most wells make some amount of down hole water. The excess water must be disposed of. (See Drill Inspections, above.)

Photo #7. The larger o two disposal sites and adjacent ponds.

Photo #8. Disposal site and adjacent pond.

Photo #9. Smaller of two disposal sites.

Photo #10. Drill #3 and drilling discharge. An unreclaimed drill site is in the foreground.

Photo #11. Extra tanks required for recirculating drilling fluids at drill #1.

Photo #12. Larger sump required for recirculating fluids at drill #5.

Geotechnical Drilling in Potential Tailings Disposal Site

Northern Dynasty is investigating a long, north-south valley about four miles west of the deposit as a possible tailings disposal site. They are drilling a number of geotechnical holes in the valley, primarily to determine the depth to bedrock and type of sediments in the overburden. We flew over the valley, but did not land. We saw a number of abandoned geotechnical holes, and one active drill. Everything seemed to be in good order. (See photo #13.)

Photo #13. Geotechnical drill in potential tailings disposal area. Approximately section 14, T3S, R36W SM.

Big Wiggley Fuel Storage

On the afternoon of the 26th we inspected the main fuel storage at Big Wiggley Lake, in section 5, T3S, R35E SM. Everything was in good order. (See July 26-27, 2007 report for more details on the facilities at Big Wiggley. See photos #13 and 14.) We noted that there are now three spill containment float booms, and there is an electric motor on the dock to pump fuel from the Beaver to the main tanks. This eliminates the need for fuel and an engine along the lake shore. (See photo #15.)

Photo #13. Big Wiggley fuel storage facility – 2,000 gallon storage containment. Boardwalk is for tundra protection.

Photo #14. Larger, 3,000 gallon fuel containment at Big Wiggley. Each containment has a large fire extinguisher, spill kit, and scrubber barrel. The facility also has a large container of spill materials.

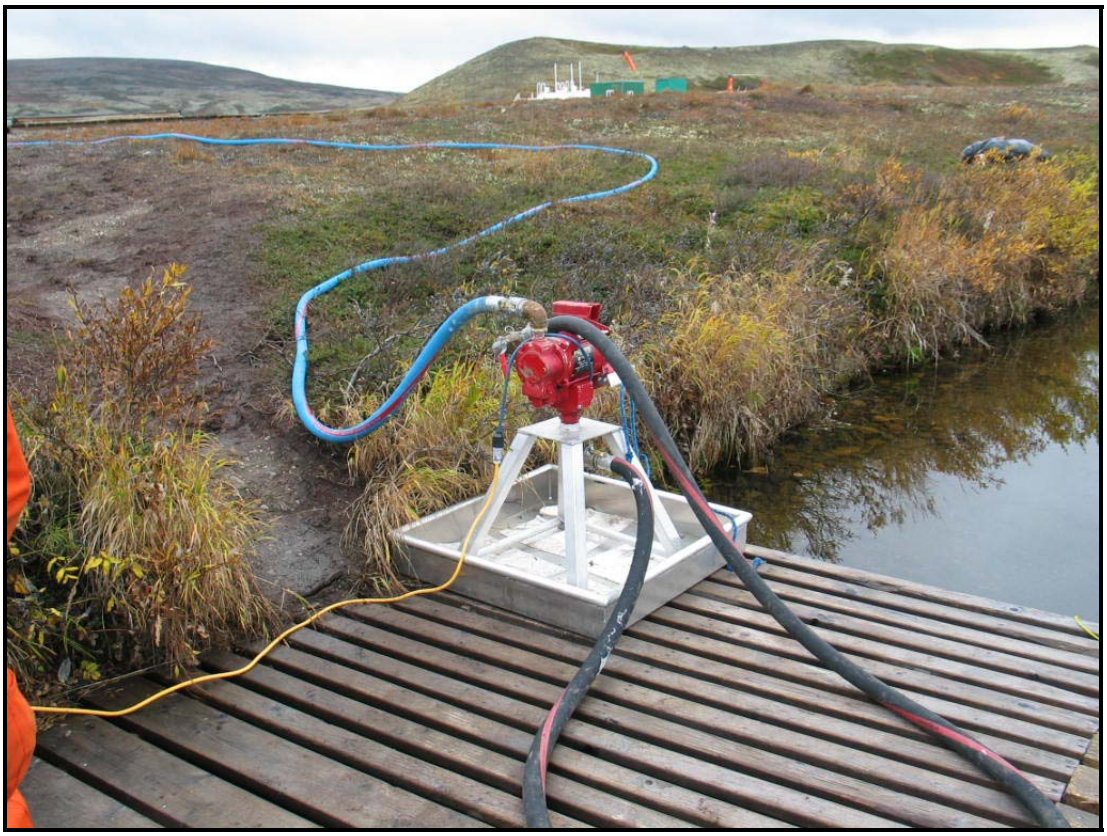

Photo #15. Electric pump on dock at Big Wiggley fuel storage.

Upper Talarik Creek

Over the course of our two-day inspection we flew along Upper Talarik Creek through the northern end of the deposit and around the north end of Koktuli Mountain on two occasions. The creek was clear, with no visual indications of contaminants from drilling operations. (See photo #16.)

Photo #16. Upper Talarik Creek, north of Koktuli Mountain.