

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING, LAND and WATER

TONY KNOWLES, GOVERNOR

3700 AIRPORT WAY
FAIRBANKS, AK 99709-4699
PHONE: (907) 451-2795
FAX: (907) 451-2703
EMAIL: stevem@dnr.state.ak.us

INSPECTION REPORT GREENS CREEK MINE

Inspection Date: July 31, 2001
Weather: Cloudy, 50-60 °F
Time of Inspection: 2:00 PM - 6:30 PM
Operator Contact: Bill Oelklaus (KGCMC)
Agency Personnel: Steve McGroarty (ADNR); Pete McGee (ADEC); Ed Emswiler (ADEC)
Inspection Objectives: Inspect the "Further Seep" area west of the tailings facility.
Observations:

During baseline water quality studies associated with the EIS for the proposed expansion of the dry-stack tailings facility, Kennecott Greens Creek Mining Company (KGCMC) recently sampled various creeks and seeps located to the west of the current tailings facility. Data provided by KGCMC shows that water samples of one seep, designated as "Further Seep", had lower pH and elevated metal and sulfate values when compared to nearby streams. The seep is located approximately 200 feet to the west of the perimeter of the current tailings facility. The company briefed the State and federal agencies of the results of the sampling during the July 31 meeting in Juneau and had notified ADEC of the findings a week earlier. The company is currently waiting for the results of a second set of sampling from the area.

Bill Oelklaus indicated that the company has plans to develop a line of well points on either side of the slurry curtain located along the western edge of the tailings facility to allow determination of the direction of the hydraulic gradient and to compare water quality between the two lines of well points. Dick LeFebvre requested that KGCMC draft a report of the water sampling conducted to date and the company's plans to determine the source of the water in the seep.

Bill Oelklaus, Pete McGee, Ed Emswiler and I traveled to Hawk Inlet by float plane to allow examination of the area around Further Seep. The seep was not flowing at the time of our observation, but water was present in small pools (Figure 1). A short distance down-slope and off to the south was a set of three nested ground water monitoring stations that had been installed as part of the data collection to support the EIS process (Figure 2). We then walked down the drainage until water was flowing and continued down slope to the beach. There were several locations in the drainage where a sulfur odor was detectable and appeared to be associated with seepage into the creek. There appeared to be an iron-oxide staining on the rocks on the beach where the creek disappeared into the beach gravel (Figure 3).



Figure 1. Location of "Further Seep".



Figure 2. Nested ground water monitoring station located to the west of the tailings facility.

We walked back up the drainage to the group of nested ground water monitoring wells and proceeded approximately 200 feet to the north up the ridge. We encountered another seep and small drainage and suggested that these be sampled if this had not already been done. Bed rock was exposed due to several tree blow-downs. Oxidized pyrite was observed in the exposed bedrock. Cubic shaped cavities; up to 1/2 inch wide; were observed in the exposed bedrock where pyrite cubes have been completely weathered away (Figure 4).

The proximity of the bedrock containing pyrite suggests that consideration be given to the fact that Further Seep may be representative of natural conditions. The proximity of the tailings facility up-gradient of the seep suggests that it is appropriate to continue the efforts to ascertain the source of Further Seep.



Figure 3. Fe-Ox staining on beach below Further Creek.



Figure 4. Exposed bedrock with cavities from dissolved pyrite.

Action Items from This Inspection: None.

Action Items from Previous Inspections: None.

Cc: Dick LeFebvre, ADNR, Anchorage
Ed Fogels, ADNR, Anchorage
Steve McGroarty, ADNR, Fairbanks
Pete McGee, ADEC, Fairbanks
Sharmon Stambaugh, ADEC, Anchorage
Ed Emswiler, ADEC, Juneau
Phyllis Weber-Scannell, ADF&G, Fairbanks

Stan Foo, ADNR, Anchorage
Jim Vohden, ADNR, Fairbanks
Cam Leonard, AGO, Fairbanks
Luke Boles, ADEC, Fairbanks
Kenwyn George, ADEC, Juneau
Al Ott, ADF&G, Fairbanks
Bill Oleklaus, KGCMC, Juneau