

MEMORANDUM

State of Alaska

TO: File

DATE: April 18, 2005

FROM: **Ed Emswiler**
ADEC, Solid Waste Section
Kenwyn George
ADEC, Water Quality Section

SUBJECT: Kennecott Greens Creek Site
Visit
April 14, 2005

Attendees:

Pete McGee, ADEC-Water Permits
Kenwyn George, ADEC-AWQ
Ed Emswiler, ADEC-SW
Patty McGrath, USEPA
Steve Hohensee, USDA-FS Mining and Mineralogy
Bill Oelklaus, KGCMC

On April 14, 2005, the above listed personnel visited the Greens Creek facility on Admiralty Island. The purpose of the visit was to introduce Ms. Patty McGrath USEPA to the site as she has just taken over duties of Bill Riley and needed a 1st hand look at the site. ADEC was present to give a perspective of various issues with regard to the various disposal sites and State and Federal permits. Bill Oelklaus of KGCMC gave the tour. The tour covered the following areas:

1. Pit 5 water treatment plant
2. Upper Greens Creek water intake
3. Mill facility
4. Stormwater capture and containment
5. Site 23 / D Waste rock facility
6. Site E
7. Tailings disposal facility



Tailings Disposal Site (looking west)



Tailings Disposal Site (looking northeast)

We arrived at Greens Creek and began the site visit at 9:30am. We were given a tour through the Pit 5 water treatment facility. The facility is designed to operate at 800 to 1,200 gallons per minute. At this site visit the plant was running at approximately 900 gallons per minute. This plant may be relocated near to Pond 7 after it is completed.

At 10:21am we stopped at the upper Greens Creek water intake located just above the bridge to the mine portal (approximately 920 feet above sea level). Approximately 700 gallons of water per minute is taken from this intake. Most of this water is used at the mill.



Upper Greens Creek Water Intake

Haul trucks of varying sizes were moving into and out of the portal. Bill explained that the mine has approximately 50 miles of roads inside. Originally the roads were developed upward inside the mountain. Over time the tunnels were developed downwards to retrieve ore. At this point in time, roads extend approximately 30 or more feet below sea level.

Bill also pointed out that virtually all of waste rock Site 960 had been excavated and placed underground. There was a small portion inside of the roadway at the site that had not been excavated. This portion will ultimately be removed. There is no groundwater going through the waste that is buried in the road, therefore it is not likely there would be a substantial run-off issue with this portion. The plan is to leave this in place until this summer when they will decide if this material should be removed or stay in place inside the road.

At 10:33 we were given a quick tour through the mill.

At 11:10 we arrived at Waste Rock Site 23. We observed that both Class II and Class III waste rock was mixed at the site and placed against the colluvium at the back surfaces of the landfill. Class I material was placed at the outward/exposed slopes in order to provide both armoring and neutralizing capacity. Patty McGrath was shown the 2-acre test section of the Engineered cover system.



Site 23

A stop was made at Site E. The latest plan is to place this material in the tailings pile in about 2 years.

At 11:50am we arrived at the tailings facility where the NPDES outfall and monitoring station and sulfate reduction monitoring program was observed. The B-road had been relocated and a new truck wash building was completed according to the 2005 tailings expansion work plan. Tank 6 has been taken out of commission and all water diverted to Pond 6 prior to being treated and discharged via the NPDES outfall. Pond 7 was being excavated and there had been no work accomplished on the Southeast expansion. Both Pond 7 and Southeast expansion are scheduled for completion later this summer.



Tailings Disposal Site from Southwest at NPDES Monitoring Station



Sulfate Reduction Monitoring Study



Internal Tailings

Alongside the road, cleaning of ditches had commenced; excavated material is taken to the tailings facility. Bales are to be re-positioned or replaced as necessary. At the mill site the storm water settling ponds are yet to be cleaned out.