



INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
8510 Mendenhall Loop Rd
Juneau, AK 99801
Office (907) 789-6273
Fax (907) 586-8808

Date of Inspection: Thursday, January 23, 2014
Date of Report: Thursday, February 6, 2014
USDA FS Inspector: Curtis Caton

Ranger Districts: Admiralty National Monument, Juneau Ranger District
Weather Conditions: light rain, temperatures in the 30s

Exploration in accordance with operating plan	Not Applicable
Timber removal following timber sale contract	Not Applicable
BMPs for erosion control	Satisfactory
Water Quality BMPs	Satisfactory
Public safety & fire prevention	Satisfactory
Reclamation work adequate and timely	Satisfactory
Road maintenance adequate and current	Satisfactory
Tails placement in accordance with plan	Satisfactory
Waste Rock placement in compliance	Satisfactory
Company supervision of operation	Satisfactory
Operating in a clean and orderly manner	Satisfactory

***Any conditions noted as UNSATISFACTORY will require follow up action by the Mine Inspector and a written memorandum to the operator, outlining the necessary work. ***

NEW REMARKS

Mitch Brook (Environmental Engineer, Hecla Greens Creek Mining Company) accompanied Curtis Caton (Geologist, US Forest Service) on this inspection. The inspection included stops at 1.4-Mile A Road Pit, Pit 7, Young Bay Dock, Tailings Disposal Facility (TDF), TDF Water Treatment Plant, 920 area, Pond A, Mill, Site 23, and the Truck Pad.

1.4-MILE A ROAD PIT

We stopped at the 1.4-Mile A Road Pit. Snow covered the 1.4-mile pit area and recent activity was not evident.

PIT 7

We noticed an iron colored staining in the outflow that originates from underneath the topsoil storage heap, into the ditch (Photos 01-02).

Chris Wallace provided a 2012 Inactive Sites Report to explain the iron staining found in the drainage near Pit 7. “Despite iron staining on the south pit wall, iron staining observed in the drainage from the pit is mostly due to dissolution of iron-rich oxide coatings in the peat and gravel fill rather than from the pit walls themselves.” The 2012 Inactive Sites Report also states that, “Dissolution of iron and manganese oxides in the fill stored in the pit has produced elevated concentrations of these metals in the drainage”.





It should be noted that in the General Plan of Operations, Appendix 5 BMP, page 5-46, that runoff from Pit 7 is monitored at storm water outfall site 004, as a non-point source pollutant. In the past there have been water quality exceedances, monitoring is currently active and needs to continue. Additionally, the Greens Creek Best Management Practices Plan is currently being updated and may provide additional information about Pit 7.

We walked down the access road to Pit 7 and looked for obstructions to the culvert (Photo 03). The culvert was not blocked and water flowed freely (Photo 04).

YOUNG BAY DOCK

This site was clean and reflected good housekeeping practices.

A-ROAD

The A road was in good condition considering the large amount of recent precipitation and snowmelt. Some minor sediment splash over from the road into the snow was evident at many of the culvert crossings. If the A road received heavy traffic like the B road, splashguards would be recommended.

B-ROAD

The B road receives heavy use by mine traffic and will require maintenance in the spring. We noted several sections of road that were wash boarded and potholed. Additionally, a crown in the road surface was not apparent and some minor pooling of water on the road surface was noticeable. No major signs of erosion were obvious on the edges of the road or in the ditches.

The General Plan of Operations in Appendix 8, Section 3 Road Maintenance, table 8.1, page 8-9 describes how Greens Creek Mining Company grades the B road according to specific needs along different portions of the travel-way. The table lists sections that are to be crowned, sloped toward the hillside, or sloped away from the hillside. However, during winter months it is noted that any road crown may be flattened to facilitate snow removal and that Greens Creek Mining Company will reestablish the crown each spring to direct precipitation off the road surface.

TAILINGS DISPOSAL FACILITY

Mitch stated that moisture-laden tailings were being temporarily stockpiled at the TDF until they can be compacted efficiently in drier conditions. We stopped at the three tracking points established by the Forest Service in February of 2013 and took pictures of the TDF; the northern high point looking south (Photo 05), directly adjacent to the water treatment plant, looking northeast (Photo 06), and from milepost 1 on the B Road looking west (Photo 07).

Chris Wallace noted that tailings leave the mill at approximately 10%-12% moisture content, which does not vary. The reason tailings were being stockpiled was a result of the large amount of precipitation received the previous week and that a large precipitation event can saturate the surface of the tailings pile, limiting the areas that can be operated in.

The exterior of the TDF Water Treatment Plant was clean and orderly.





920 AREA

The 920 warehouse had several secondary containment violations. Petroleum products and cleaning agents were not in secondary containment (Photo 08-10). Water partly filled the containment basin, beneath the grated interior of a curtained sea van, allowing rain and snowmelt to accumulate in the basin diminishes the secondary containment of the sea van (Photo 11). We discussed draining the water from the basin while temperatures are above freezing.

Chris Wallace noted that the volume of precipitation in the containment basin was approximately 200 gallons, and the volume of secondary storage in a curtained sea van is approximately 900 gallons, leaving approximately 700 gallons available for secondary containment. Additionally, Chris Wallace noted that the largest container stored is 330 gallons, which requires 363 gallons (110%) of secondary storage and the sea van in question would provide twice the amount of required secondary storage.

Plowed snow was being stored properly and melted in a sediment collection basin that drains to Pond A (Photo 12).

MILL

Near the Mill we located a sea van that was half on concrete and half on gravel. Moving the sea van onto concrete would fulfill secondary containment requirements (Photo 13).

The exterior of the Mill was neat and orderly.

SITE 23

The access road to Site 23 was muddy and in the process of being maintained when we arrived. We stopped and spoke with a heavy equipment operator about the access road condition, the eventual removal of stockpiled sediment at Site 23 to the TDF and the plan to build an additional access road to Site 23 (Photo 14).

Near the reclamation test plot (Photo 15), we met with Chris Wallace (Environmental Manager, Hecla Greens Creek Mining Company) while he was retrieving field data. We discussed his plans to remedy secondary containment problems at the 920 warehouse and his concerns about the localized geologic instability of Site 23.

TRUCK PAD

We looked at the 6 new sea vans Greens Creek Mine ordered for the 920 warehouse. The new sea vans are designed to comply with secondary containment requirements in the 920 area (Photo 16). The estimated containment volume of the new sea van (8'x20'x 0.25'), on a level surface, is approximately 299 gallons. This volume is sufficient for most of the containers in the 920 area, except for the larger 330-gallon reinforced totes, which will still need to be stored on concrete or in secondary containment with sufficient volume. Plans are in place to move all 6 sea vans to the 920 area, once weather and ground conditions allow.

Chris Wallace noted that a slight modification to the new sea van from a 3-inch lip to a 4-inch lip would allow for the storage of the larger 330-gallon totes and provide approximately 399 gallons of secondary storage.



PHOTOS

(High-resolution version of all images available upon request)



Photo 01. Iron staining in ditch near Pit 7.



Photo 02. Iron staining in ditch near Pit 7.



Photo 03. Unobstructed culvert near Pit 7.



Photo 04. Unobstructed culvert near Pit 7.



Photo 05. Tracking point at TDF, looking south.



Photo 06. Tracking point at TDF looking northeast.



Photo 07. Tracking point at TDF looking west.



Photo 08. Petroleum products not in secondary containment.



Photo 09. Cleaning agents not in secondary containment.



Photo 10. Petroleum product not in secondary containment.



Photo 11. Precipitation in curtained sea van containment basin.



Photo 11a. Precipitation in curtained sea van containment basin.



Photo 12. Snow melting.



Photo 13. Sea van half on concrete pad.



Photo 14. Site 23.



Photo 15. Reclamation test plot.



Photo 16. New sea van.

Thanks to HGCMC for an efficient and safe visit.

U.S. Forest Service Officer: /s/ Curtis Caton