

INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
8510 Mendenhall Loop Rd
Juneau, AK 99801
(907) 789-6276 – office
(907) 586-8808 – fax

Date of Inspection: Thursday, July 28, 2022
Date of Report: Monday, August 15, 2022
USDA Forest Service Inspector: Casey Loofbourrow

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: Rain Temperature: Mid 50's (°F).

Exploration in accordance with operating plan	Not Applicable
Timber removal following timber sale contract	Not Applicable
BMP for erosion control	Satisfactory
Water Quality BMP	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.

Any conditions noted as Requires Action will require attention from the operator and suggestions for necessary work are listed below

Transportation to and from the site was on the HGCMC crew boat.

Marty Stearns (Environmental and Surface Operations Manager) and Paula Lillesve (Permitting and Compliance Coordinator) accompanied Casey Loofbourrow (Geologist, USFS) and Rich Dudek (Geologist, USFS).

The site inspection included: The A and B access roads, the 920 area, Site 23, Pond C, 7.4 mile B-Road bridge (Killer Creek Bridge), Site E, 3.4 mile B-Road bridge (Falls Creek Bridge), 3.0 mile B-Road bridge (Zinc Creek Bridge), and the Tailings Disposal Facility (TDF).

STATUS OF ACTION ITEMS FROM PREVIOUS INSPECTIONS:

Date/Item No.	Item Description	Status
3/16/2022; 419-1	Sediment deflection boards at the uphill bridge end of Falls Creek Bridge are damaged and require replacement (GPO, Appendix 5 BMP Plan, page 10).	Resolved. Temporary sediment deflection measures have been installed. Permanent barriers will be installed concurrent with bridge replacement scheduled for August 2022.

5/12/2022; 421-1	A stormwater BMP adjacent to the B-Road located above the Killer Creek Bridge has accumulated sediment that requires removal.	Resolved. Accumulated sediment has been removed.
---------------------	---	---

NEW ACTION ITEMS

423-1: Increased turbidity of surface water runoff was observed at the 3.0 mile B-Road Zinc Creek Bridge uphill side stormwater BMPs. During the next inspection, the flow path of this water will be traced to its terminus or confluence with surface water to determine the potential for impact to surface waters, and if BMP performance needs to be improved.

ACCESS ROADS

The A and B access roads appeared in good condition. The recently completed slope stabilization work at 5.6-Mile B-Road appeared stable and in good condition.

920 AREA

The Greens Creek discharge was 88 cfs (Photos 1-2), and 1.34 cfs was being withdrawn for operational use.

Good housekeeping practices were observed at the 920 warehouse (GPO, Appendix 5 BMP Plan, page 39). All petroleum/chemicals observed were properly stored within secondary containment (Photo 3).

SITE 23

Class 1/2/3 waste rock continues to be placed at this location (Photo 4).

Pond 23 appeared in good condition with substantial surge capacity (Photo 5).

7.4-MILE B-ROAD BRIDGE (KILLER CREEK BRIDGE)

The recently overhauled Killer Creek Bridge appeared in good condition, with sediment deflection concrete barriers effectively preventing sediment from reaching bridge abutments (Photo 6).

Recently replaced sediment BMPs on the bridge abutments appear in good condition, and the hydroseeded surface is showing dense vegetation growth and coverage (Photos 7-8).

RESOLVED ACTION ITEM 421-1: A stormwater sump BMP adjacent to the B-Road located above the Killer Creek Bridge had accumulated excess sediment that has been removed (Photo 9).

SITE E

Site E continues to be used as a laydown area for storing road surface rock, equipment, explosives, and materials excavated and/or used for projects including bridge replacement and repair, and the 5.6 B-Road slope stabilization project (Photos 10-11). The settling pond appeared in good condition with substantial surge capacity (Photo 12).

HGCMC has hauled an estimated 20,000 cubic yards of waste rock this year from this location to the TDF for final disposal.

3.4-MILE B-ROAD BRIDGE (FALLS CREEK BRIDGE)

RESOLVED ACTION ITEM 419-1: Sediment deflection barriers have been temporarily modified with plywood, wattles, and jersey barriers, and will be replaced with more permanent barriers during bridge replacement, scheduled to commence August 10, 2022 (Photos 13-14, requirements at GPO, Appendix 5 BMP Plan, pages 10 and 98).

3.0-MILE B-ROAD BRIDGE (ZINC CREEK BRIDGE)

The recently replaced and improved sediment BMPs at the Zinc Creek Bridge abutment are in good condition and functioning as intended. Vegetation was established by hydroseeding and is showing dense growth and coverage, which should improve resistance to erosion (Photos 15-16).

NEW ACTION ITEM 423-1: The stormwater BMPs located at the uphill side of Zinc Creek Bridge, commonly known as the “Gnome Ponds” (Photo 17), were observed discharging water with increased turbidity to the forest floor (Photos 18-19). During this inspection, the extent of the turbid flow was not able to be traced to its terminus or confluence with a stream but continued for at least 100 yards beyond the discharge point. The presence of fine grained sediments below the turbid flow suggests fine sediment deposition from repeated increased turbidity events. In the following inspection, the full flow path from this BMP discharge will be documented to evaluate the potential for adverse impacts to surface waters, and if BMP effectiveness requires improvement.

TAILINGS DISPOSAL FACILITY (TDF) AREA

The current active tailings deposition location is the northern S3P1 expansion area, adjacent to 1.0 mile B-Road.

HGCMC was not actively dredging sediment from Pond 7 due to staff availability, but the dredge was still in place in Pond 7. Three dewatering bags within the TDF adjacent to the water treatment plant had been filled with sediment from Pond 7 at the time of inspection (Photo 20). Dewatered sediment will be disposed within the TDF.

At the time of the inspection, Pond 7 (Photo 21) was collecting contact and process water, and Pond 10 (Photo 22) was not receiving water but contained a small amount from precipitation and its previous use to control water levels in Pond 7 to facilitate dredging activities.

The water treatment plant was discharging approximately 1282 gpm to Outfall 002.

PHOTOS (Image files available upon request)



Photo 1. Greens Creek looking upstream from the 920 weir.



Photo 2. Greens Creek looking downstream from the 920 weir.



Photo 3. Chemicals stored in appropriate secondary containment at the 920 warehouse.



Photo 4. Site 23 active waste rock placement area.



Photo 5. Pond 23 showing substantial surge capacity.



Photo 6. Killer Creek Bridge, showing effective sediment deflection barriers at the uphill end.



Photo 7. Uphill side BMPs at Killer Creek Bridge, showing new wattles and successful revegetation efforts.



Photo 8. Downhill side abutment BMPs at Killer Creek Bridge, showing new wattles and successful revegetation efforts.



Photo 9. Stormwater BMP at the uphill end of Killer Creek Bridge from which sediment has been removed to restore sediment settling function.



Photo 10. South end of Site E, used for equipment laydown and material storage.



Photo 11. Site E, debris and fill stockpiled from the recently completed slope stabilization work at 5.6-mile B-Road.



Photo 12. North end of Site E, pond E visible in background.



Photo 13. Downhill side of the Falls Creek Bridge. Plywood used on the right of the photo, and a coarse-grained fill berm on the left of the photo, preventing sediment from reaching the abutment from the roadway. These features will be improved with bridge replacement scheduled to begin August 10, 2022.



Photo 14. Temporary sediment deflection wattles and concrete barrier on the uphill side of the Falls Creek Bridge. Steel girders to be used in bridge replacement scheduled to begin August 10, 2022, are visible to the right of the bridge.



Photo 15. Downhill side Zinc Creek Bridge abutment showing recently replaced wattles and substantial vegetation growth.



Photo 16. Uphill side Zinc Creek Bridge abutment showing recently replaced wattles and substantial vegetation growth.



Photo 17. B-Road Stormwater BMP located uphill from the Zinc Creek Bridge. Downpipe that leads to discharge pipe visible at center of lower sump.



Photo 18. Discharge point of the B-Road Stormwater BMP located uphill from the Zinc Creek Bridge.



Photo 19. Turbid water flowing over the forest floor downgradient from the B-Road stormwater BMP located uphill from Zinc Creek Bridge.



Photo 20. Dewatering bags containing sediment dredged from Pond 7. Located in the TDF east of the water treatment plant.



Photo 21. Pond 7 receiving contact and process water. Dredge in photograph was not actively operating.



Photo 22. Pond 10 storing a small amount of water.

Thanks to HGCMC for a safe visit.

/s/ Casey Loofbourrow