

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: Wednesday, October 26, 2022
Date of Report: December 5, 2022
USDA Forest Service Inspector: Pat Dryer

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: Overcast, light 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	REQUIRES ACTION
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 the site was via the HGCMC crew boat and the return trip by Alaska Seaplanes.

Cameron Sell (Environmental Engineer) and Paula Lillesve (Environmental Permitting and Compliance) accompanied Pat Dryer (Hydrologist, USFS).

The site inspection included: The A and B access roads, 1350 area, 920 area, Site 23, Pond C, Pond D, 7.4 mile B-Road Bridge (Killer Creek Bridge), 5.6 mile B-Road landslide area, 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
423-1; 7/28/2022	Increased turbidity of surface water runoff was observed at the 3.0 mile B-Road Zinc Creek Bridge uphill side stormwater BMPs.	PENDING. Hecla requested to use anionic polymers or “floc logs” to reduce turbidity in stormwater BMP’s on 9/26/2022. In a subsequent meeting with ADEC, ADF&G, ADNR, and the USFS Hecla was approved to test the polymers for use in BMP’s.

424-2: 8/31/2022	Stormwater sediment BMPs on the downhill side of the Falls Creek Bridge abutment are in disrepair (Photo 19). BMPs require improvement to effectively contain sediment or prevent sediment from accumulating on the abutment.	PENDING.
424-3: 8/31/2022	Sumps that precede the "Gnome Pond" along the B-Road are filled with sediment that should be removed to improve BMP efficiency (Photo 27).	PENDING. Recent heavy rains have filled sumps along the B-road.

NEW ACTION ITEMS

NEW ACTION ITEM 426-1: Stormwater sediment BMPs on the uphill side of the Falls Creek Bridge abutment are not functioning as designed and turbid water is reaching Falls Creek (Photos 21-22). BMPs require improvement to reduce turbidity of runoff prior to discharge into Falls Creek.

ACCESS ROADS

The A and B access roads appeared in good condition.

1350 AREA

The drill pad that was documented in inspection report 422 was removed in late summer. The drill collars were recently cut off below ground level and perforated pipe was installed to promote drainage of surface water collected in the sump (Photo 1). Water from this sump is now collected underground and treated prior to discharge.

920 AREA

The Greens Creek discharge was 61 cfs (Photos 2-3) and 1.3 cfs was being withdrawn for operational use.

Minor ponding of water was observed on the approach to the Greens Creek bridge (Photo 4). Excess sediment near the degrit basin was blocking the drainage and was removed during the inspection.

Pond A was in good condition with substantial surge capacity (Photo 5).

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 6).

SITE 23

Class 1/2/3 waste rock continue to be placed at this location (Photo 7).

Pond D was in good condition with adequate surge capacity (Photo 8).

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

The Killer Creek Bridge appeared in good condition (Photo 9), with sediment deflection concrete barriers preventing sediment from reaching bridge abutments (Photo 10).

5.6 MILE B-ROAD LANDSLIDE

A landslide occurred on Tuesday 27 September at the 5.6 mile of the B-road (Inspection report 423). Substantial work has been completed to stabilize the slope (Photos 11-16). During our inspection a temporary pause in the repair operations was occurring for the contractor to take a necessary break. Work will resume on the project after the required break. Repairs were nearly complete during this visit. Rock was sourced from the 8 Fathom rock pit in Port Frederick, Haines, and Stablers quarry for this project.

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. The stormwater pond was full, limiting the available surge capacity, and observed discharging to the environment (Photos 17-18). Discharge from this location is permitted via an APDES stormwater outfall, however HGCMC typically collects and treats this water during summer and shoulder season months. The USFS will work with HGCMC and appropriate State agencies to evaluate whether water quality monitoring near this location is suitable for monitoring potential environmental impacts.

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

This bridge was replaced earlier this year. The new bridge wear surface was installed higher than the adjacent roadbeds which is intended to prevent excessive ponding of water on the bridge surface (Photo 19).

PENDING ACTION ITEM 424-2: Stormwater sediment BMPs on the downhill side bridge abutment are in disrepair (Photo 20). These BMPs require improvement to effectively contain sediment or prevent sediment from accumulating on the abutment.

NEW ACTION ITEM 426-1: Stormwater sediment BMPs on the uphill side of the Falls Creek Bridge abutment are not functioning as designed and turbid water is reaching Falls Creek (Photos 21-22). BMPs require improvement to reduce turbidity of runoff prior to discharge into Falls Creek.

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

Ponded water was observed on the approach to the Zinc Creek Bridge (Photo 23).

The “Gnome Pond” was observed at capacity with turbid water from surface water runoff (Photo 24).

PENDING ACTION ITEM 423-1: Turbid water was observed being discharged from the stormwater BMP colloquially known as the “Gnome Pond” (Photo 25). Turbid waters were also observed downstream of the discharge pipe along the forest floor flowing towards a tributary of Zinc Creek (Photo 26).

HGCMC staff has submitted a request to test anionic polymers or “floc logs” to reduce turbidity in roadside BMP’s. Due to limited available space to increase the size of settling ponds the anionic polymers will be tested to determine if appropriate for use in the BMP’s. Hecla will conduct laboratory and field testing this fall to determine the effectiveness of the polymers and provide a report to the Forest Service on effectiveness and how the polymers could be used on the mine site.

PENDING ACTION ITEM 424-3: Sumps that precede the “Gnome Pond” along the B-Road were filled with sediment that requires removal (Photo 27). Recent heavy rainfall has caused additional sedimentation.

TAILINGS DISPOSAL FACILITY (TDF) AREA

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

HGCMC is currently evaluating options for continuing dredging operations to remove accumulated sediment from Pond 7. HGCMC is required to maintain suitable surge capacity to ensure the facility can withstand precipitation events.

At the time of the inspection, Pond 7 (Photo 28) was collecting contact and process water, and Pond 10 (Photo 29) was not receiving water.

The water treatment plant was discharging approximately 2200 gpm to Outfall 002.

PHOTOS (Image files available upon request)



Photo 1. The 1350 area and new water collection sump.



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



Photo 3. Greens Creek looking downstream from the 920 weir.



Photo 4. Greens Creek bridge with minor ponding of water.



Photo 5. Pond A, below the 920 area.



Photo 6. Chemicals stored in appropriate secondary containment at the 920 warehouse area.



Photo 7. Upper Site 23 waste rock storage area.



Photo 8. "D" pond near the Site 23 pump area.



Photo 9. Killer Creek Bridge surface.



Photo 10. Killer Creek Bridge abutment BMP's.



Photo 11. 5.6 mile B-road landslide repairs.



Photo 12. 5.6 mile B-road landslide repairs.



Photo 13. 5.6 mile B-road landslide repairs.



Photo 14. 5.6 mile B-road landslide repairs.



Photo 15. 5.6 mile B-road landslide repairs.



Photo 16. 5.6 mile B-road landslide repairs.



Photo 17. Stormwater pond at capacity at Site E.



Photo 18. Stormwater pond discharge at Site E.



Photo 19. Falls Creek Bridge surface.



Photo 20. Falls Creek Bridge downhill side abutment BMPs in disrepair.



Photo 21. Falls Creek Bridge uphill side abutment BMPs in disrepair and likely source of turbid water.



Photo 22. Turbid waters entering Falls Creek from bridge abutment.



Photo 23. Zinc Creek Bridge with minor ponding of water.



Photo 24. "Gnome Pond" BMPs at capacity.



Photo 25. Outlet pipe of the "Gnome Pond" BMPs located adjacent to the Zinc Creek Bridge.



Photo 26. Downstream of the “Gnome Pond” outlet looking towards Zinc Creek.



Photo 27. Small sumps above the Gnome Ponds that require sediment removal.



Photo 28. Pond 7.



Photo 29. Pond 10.

Thanks to HGCMC for a safe visit.

/s/ Pat Dryer