

INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
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Date of Inspection: Wednesday, September 28, 2022
Date of Report: October 12, 2022
USDA Forest Service Inspector: Pat Dryer

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: Partly Cloudy 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 provided by Alaska Seaplanes and the return trip was on the HGCMC crew boat.

Mitch Brooks (Environmental Technician) accompanied Pat Dryer (Hydrologist, USFS).

The site inspection included: A portion of the A and B access roads, 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, Hecla was approved to test the polymers for use in BMP’s.

424-1: 8/31/2022	Absorbent pads at the 1350 area require disposal.	RESOLVED. Hecla staff reports that the items at the 1350 area have been removed.
424-2: 8/31/2022	Stormwater sediment BMPs on the downhill side Falls Creek Bridge abutment are in disrepair (Photo 8). 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 11).	PENDING. Recent heavy rains have filled sumps along the B-road. Hecla staff was conducting maintenance on roadside BMP's during the inspection.

NEW ACTION ITEMS

No new action items were observed during this inspection.

ACCESS ROADS

The A and B access roads appeared in good condition.

1350 AREA

The B-road was closed at the site of the 5.6 mile landslide to make emergency repairs. The 1350 area was not visited during this inspection.

920 AREA

The B-road was closed at the site of the 5.6 mile landslide to make emergency repairs. The 920 area was not visited during this inspection.

SITE 23

The B-road was closed at the site of the 5.6 mile landslide to make emergency repairs. The Site 23 area was not visited during this inspection.

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

The B-road was closed at the site of the 5.6 mile landslide to make emergency repairs. The 7.4 mile Killer Creek Bridge area was not visited during this inspection.

5.6 MILE B-ROAD LANDSLIDE

A landslide occurred on Tuesday 27 September at the 5.6 mile of the B-road (Photos 1-3). The road was closed during the inspection to allow contractors to make emergency repairs to the road. The contractors were placing clay materials in the roadside ditch to reduce infiltration under the section of the road effected by the landslide (Photo 3). The B-road was being undercut by the head scarp and Hecla engineers were attempting to determine the most appropriate way to conduct repairs (Photos 2-3). Small seeps along the bedrock outcroppings were visible in the disturbed area below the roadway

(Photo 3). Road repairs were recently completed in this area under the 5.6 mile deep patch project. There were no culverts located in the section of the road where the landslide has compromised the roadway. The FS requested Hecla provide a plan for the emergency repairs to be considered under a road maintenance CE. The plan for a rockfill buttress was submitted on 10/3/2022 to the Forest Service, and approval was given on 10/5/2022.

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 settling pond appeared in good condition but was full, limiting the available surge capacity (Photo 6). HGCMC planned to pump the pond in preparation for a forecasted precipitation event.

In 2022, HGCMC has hauled an estimated 30,000 cubic yards of waste rock and material excavated in support of road projects from this location to the TDF for final disposal. HGCMC anticipates resuming hauling material from Site E to the TDF next year.

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 7). No evidence of ponding water or sediment accumulation on the bridge from the recent heavy rainfall was observed during this inspection.

PENDING ACTION ITEM 424-2: Stormwater sediment BMPs on the downhill side bridge abutment are in disrepair (Photo 8). These BMPs require improvement to effectively contain sediment or prevent sediment from accumulating on the abutment.

3.2-MILE B-ROAD SLOPE STABILIZATION

The 3.2-mile B-road slope stabilization project was completed since the last inspection (Photo 9). These repairs were conducted following a slope failure during December 2020.

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

The Zinc Creek Bridge abutment BMPs are in good condition and functioning as intended (Photo 10).

PENDING ACTION ITEM 423-1: Turbid water was observed being discharged from the stormwater BMP colloquially known as the “Gnome Pond” in the previous inspection (Photo 11).

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 12). Recent heavy rainfall has caused additional sedimentation. Maintenance was ongoing at several BMPs along the roadway during the inspection.

TAILINGS DISPOSAL FACILITY (TDF) AREA

The current active tailings deposition location is the northern S3P1 expansion area, approximately adjacent to 1.0 mile 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 13) was collecting contact and process water, and Pond 10 (Photo 14) was storing waters collected during the recent heavy rainfall event.

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

PHOTOS (Image files available upon request)



Photo 1. The 5.6 mile B-road landslide viewed from the road surface.



Photo 2. The head scarp of the 5.6 mile B-road landslide undercutting the roadway.



Photo 3. The head scarp of the 5.6 mile B-road landslide undercutting the roadway.



Photo 4. Contractors making emergency repairs to the drainage ditches at the site of the 5.6 mile B-road landslide.



Photo 5. Water seeps visible on the exposed bedrock in the 5.6 mile B-road landslide.



Photo 6. Site E stormwater pond. HGCMC planned to pump water out of the pond.



Photo 7. New Falls Creek Bridge surface.



Photo 8. Falls Creek Bridge downhill side abutment BMPs in disrepair.



Photo 9. Roadside repairs were completed at the 3.2 mile of the B-Road where a slope failure occurred during the December 2020 storm event.



Photo 10. Zinc Creek Bridge abutment BMPs in good condition.



Photo 11. Outlet pipe of the "Gnome Pond" BMPs located adjacent to the Zinc Creek Bridge.



Photo 12. Small sumps above the Gnome Ponds that require sediment removal.



Photo 13. Pond 7.



Photo 14. Pond 10.

Thanks to HGCMC for a safe visit.

/s/ Pat Dryer