



INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
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Date of Inspection: Wednesday July 20, 2016
Date of Report: Tuesday August 2, 2016
USDA Forest Service Inspector: Richard Dudek

Ranger District: Admiralty National Monument
Weather Conditions: Partly cloudy. Temperature: Mid 60's °F.

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
Roads 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

Ward Air provided a De Havilland Beaver floatplane for transportation to and from the site.

Dave Landes (Environmental Operations, Hecla Greens Creek Mining Company (HGCMC)) accompanied Curtis Caton (Geologist, US Forest Service), Edward Gazzetti (Hydrogeologist, US Forest Service), Christina Hopkins (Biologist, US Forest Service), and Richard Dudek (Geologist, US Forest Service).

This inspection included A/B access roads, 1350 area, 920 area, Falls Creek Bridge, Zinc Creek Bridge, TDF area, and the Sand Pit.

ACTION ITEMS

- Falls Creek Bridge: Sediments have accumulated underneath the bridge and on the splashguard rails.
- Falls Creek Bridge: Splashguards need to be taller to prevent sediments from entering Falls Creek.
- Zinc Creek Bridge: A sediment sump is near capacity and needs to be mucked.

NOTE WORTHY ITEMS:

Surface exploration has concluded with two holes drilled at the Big Sore location. The total depth drilled is 3,100 feet.

HGCMC has plans to start scaling at the 920 portal in September.





A/B ACCESS ROADS

The A and B access roads are in adequate condition and comply with HGCMC's BMP plan for road maintenance (Appendix 8, Table 8.1). HGCMC has recently reapplied more road polymer for dust suppressant along sections 4.1-4.7 mile of B-road. HGCMC stated this particular polymer, while effective for a short time period, does not demonstrate the longer-term effectiveness desired and necessary to justify application to a larger segment of the road system. HGCMC is currently looking at other alternatives for access road fugitive dust control. HGCMC is currently using a water truck for fugitive dust control.

1350 AREA

HGCMC has recently installed a 1-foot deep trench and caisson (Photo 1) to capture stormwater runoff from a waste rock stockpile (Photo 2) at the 1350 area. The installation of this trench was due to zinc exceedances detected down gradient at the Fresh Water Monitoring Program (FWMP) Site 13 (Photo 3). The stormwater runoff from the waste rock stockpile flows into the trench, and then drains into a caisson where it will be pumped into the 1350 adit. From there the water will combine with other mine drainage and will route to treatment prior to discharge under the APDES permit.

920 AREA

HGCMC Surface Operations have repaired the broken concrete overlay (Photo 4). Prior to the concrete overlay repairs, HGCMC Surface Operations removed some boulders in order to re-route mine traffic to the 920 ore pad (Photo 5). Surface Operations are properly maintaining the 920 bridge (Photo 6) and the bridge's splashguards are effectively working to prevent sediments from entering Greens Creek.

FALLS CREEK BRIDGE

Some of the wood planks for the wear layer of the bridge decking are damaged (Photo 7). HGCMC Surface Operations replaced the damaged planks the same day as this inspection. In 2017, HGCMC has plans to re-deck the wear layer of the bridge. Surface and Environmental Operations are working on a plan for crews to safely remove the sediments that have accumulated underneath the bridge (Photos 8-9). There is significant amount of sediment on rails of both splashguards (Photo 10). There is also sediment accumulation on the pipes that run parallel with the bridge (Photo 11). The splashguards for the bridge are not effectively working to prevent sediments from entering Falls Creek.

ZINC CREEK BRIDGE

The inspection report from 06/16/16 documented that a removable sediment screen at the 3.1 mile of B-road exceeded its capacity. HGCMC Surface Operations have removed the sediments from the removable screen (Photo 12). HGCMC Surface Operations have removed the silt fences, and recently installed four sets of triple stacked straw wattles (Photo 13) near the bridge's southern abutments to capture sediments from stormwater runoff. A sump installed in early 2016 is near capacity and needs to be mucked (Photo 14). These sumps (Photo 15) and rock check dams need to be continually monitored and maintained to prevent overflow into the forest.

TDF AREA

The liner for TDF expansion is installed and contractors are currently placing the service sand layer (Photo 16). The Class-1 waste rock (Argillite) (Photos 17) that is placed on the outer slopes of the TDF is to help minimize the oxidation of tailings, and stabilize the TDF slopes to minimize wind and stormwater erosion. Eventually the Class-1 waste rock will be covered with organic material. HGCMC has also in place portable windscreens on the crest of the TDF (Photo 18) to reduce fugitive dust. The excavation for Pond 10 (Photo 19) is underway. The excavated organic material is stockpiled at the A-road Sand Pit.



SAND PIT

The excavated peat from the Pond-10 construction is being deposited within the Sand Pit (Photos 20-21). The berms constructed for the Sand Pit is material from within the pit and the roadway is constructed from imported material. The disturbed outer slopes and berms have been hydroseeded (Photo 22-23) to establish vegetation for reducing erosion from stormwater (HGCMC's BMP plan page 13).

0.9 Mile B-road

This location is being developed to stockpile material from the 1.4 Mile A-Road Sand Pit excavation. The stockpiled material is for the TDF expansion project and reclamation material (Photo 24). The Forest Service approved the felling of trees for this expansion.

Photos (Additional photos available upon request)



Photo 1. A trench installed at the 1350 area.



Photo 2. A small waste rock stockpile at the 1350 area.



Photo 3. Surface water is not always present at the Fresh Water Monitoring Program (FWMP) Site 13.



Photo 4. 920 concrete overlay has been repaired.



Photo 5. Image shows the area used for rerouting mine traffic.



Photo 6. 920 bridge.



Photo 7. Falls Creek Bridge with two damaged wood planks.



Photo 8. Sediments have accumulated underneath Falls Creek Bridge.



Photo 9. Sediments have accumulated on both sides of Falls Creek.



Photo 10. Sediment accumulating on the rails of the splashguards.



Photo 11. Sediment accumulating on pipes parallel to bridge.



Photo 12. 3.1 mile B-road removable sediment screen.



Photo 13. Straw wattles placed to capture sediments from stormwater runoff.



Photo 14. Sediment sump is almost at full capacity.



Photo 15. The BMP's stand pipe, sumps and rock check dams installed need to be frequently monitored and maintained.



Photo 16. The liner for TDF expansion is installed and the service sand is being placed.



Photo 17. Class-1 waste rock (Argillite) used as armoring layer for the outer slopes of the TDF.



Photo 18. A portable windscreen highlighted in image is used for reducing tailings dust dispersal.



Photo 19. Excavators are removing organic material for the Pond-10 construction.



Photo 20. Excavated organic material from the Pond-10 construction.



Photo 21. Organic material deposited at the Sand Pit.



Photo 22. Hydroseeded area at the Sand Pit to prevent erosion.



Photo 23. Berm for the Sand Pit has been hydroseeded.



Photo 24. The stockpiled material at 0.9 Mile B-road area is for the TDF expansion project and for reclamation material.

Thanks to HGCMC for a safe visit.
U.S. Forest Service Officer: /s/ Richard Dudek
