



INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
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Date of Inspection: Thursday March 15, 2018
Date of Report: Tuesday March 27, 2018
USDA Forest Service Inspector: Richard Dudek

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: Cloudy with sun Temperature: low 40'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
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 Cessna 185 floatplane to and from site.

Dave Landes (Environmental engineer, (HGCMC)) accompanied Richard Dudek (Geologist, United States Forest Service (USFS)), Curtis Caton (Geologist, USFS), and David Wilfong (Alaska Department of Natural Resources (ADNR)).

The site inspection included the Access Road B, 920 area, 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), Tailings Disposal Facility (TDF).

ACTION ITEMS

- **No new action items to report.**

NOTE WORTHY ITEMS

HGCMC will be submitting a proposal to the Forest Service to remove 900 cubic yards of waste rock located near the 920-pump house, and construct an electrical switchgear pad to supply additional power to the underground mine (Photos 1-2).





ACCESS ROAD B

Erosional features have formed along sections of the B-road, which will require maintenance. HGCMC is aware of these erosional features and will be conducting routine maintenance on the access roads (Appendix 8 Road Operations and Maintenance; Table 8.1).

920 AREA

The recorded discharge rate for the Greens Creek weir (Photo 3) on 3/15/2018 was 19.84 cubic feet per second (cfs). The 920-area water withdrawal rate from Green Creeks was 1.5 cfs.

The 920 bridge (Photo 4) splashguards are effectively working to prevent sediment splash over from vehicular traffic. HGCMC Surface operations are aware of the sediment accumulation along the bridge, and will be conducting routine maintenance to remove the sediments.

The sediment collection sump (Photo 5) near the 920-pump house will need to be mucked once warmer conditions persist (Appendix 8 Road Operations and Maintenance; page 8-6).

Good housekeeping practices were observed at the warehouse (Photos 6-7) and in the storage containers. All chemical and petroleum products were properly stored within secondary containment (Appendix 5 BMP plan; page 39).

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

The bridge decking was in good condition (Photo 8), and the splashguards are effectively preventing sediment splash over from vehicular traffic (Photo 9). As warmer temperatures persist, sediment accumulation at the bridge ends will need to be monitored to prevent sediments from entering into the creek.

SITE E

HGCMC is currently staging road base material at this location (Photo 10). To prevent cross contamination with waste rock, a sacrificial base layer was placed on the ground. In the summer of 2018, HGCMC plans to remove all of the old waste rock (Photo 11) from this location and dispose of it in the TDF.

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

The bridge wear layer was in good condition (Photo 12). As warmer temperatures persist, the bridge ends should be frequently monitored to prevent road sediments from flowing down the abutments and into the creek. Observed at the downhill/stream side, the temporary barrier's (Photo 13) sediment accumulation has exceeded one-third of the height and requires cleaning. The Forest Service considers a temporary barrier's maintenance the same as silt fencing. Sediments are removed when accumulation reaches one-third of the fence height (Appendix 5 BMP Plan; page BMP-12).

The splashguards are effectively preventing sediment splash over from vehicular traffic (Photo 14).

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

The bridge wear layer was in good condition (Photo 15), and the splashguards are effectively preventing sediment splash over from vehicles (Photo 16).





TDF AREA

Construction of the new wheel wash station is almost complete (Photos 17). During construction of the wash station, HGCMC recognized the potential for the floor nozzles breaking off when tire chains pass over them (Photo 18). HGCMC addressed this concern with the manufacturer of the wheel wash station. The manufacturer then developed and engineered a solution that still met the design requirements. The change was implemented, and the site installation contractors drilled small holes into the floor of the washing station where water will spray onto the truck wheels. The water source for the wheel wash station will be from Cannery Creek, and groundwater from the S3P1 below liner drains.

HGCMC Surface Operations has begun routing an effluent drainpipe from the wheel wash station across the S3P1 area and into pond 7 (Photos 19-20). The plan is bury the pipeline under tailings, and install cleanouts for maintenance.

Surface Operations continues to deposit tailings in the S3P1 expansion area (Photos 21). During the winter months, HGCMC uses a number of dust mitigation controls such as minimizing tailings placement areas and windscreens. HGCMC is currently waiting for some components to arrive for the TDF water misting system, another dust mitigation strategy.

Pond 7 was receiving mine site water. Pond 10 is still inactive and only had snow and ice accumulation (Photos 22-23).

The recorded discharge rate on 3/15/2018 for the water treatment plant was 1,344 gallons per minute (gpm), with 1,300 gpm being discharged through Outfall 002. The treated water that is not discharged through Outfall 002 is recycled back into Pond 7. All water discharged through Outfall 002 is limited and monitored per APDES permit requirements. Good housekeeping practices were observed inside the water treatment plant (Photo 24).

Geotechnical drilling in the wetlands behind Pond 7 has concluded (Photos 25). The three monitoring wells installed (well screen depths: bedrock, glacial till, and peat) as part of a feasibility study.

FOLLOW UP ITEMS

Inspect the 920 area.

Inspect the B-road bridges for sediment accumulation.

Conduct a site inspection of the TDF area and facilities.

Ponds C and D

Hazard trees removal

PHOTOS (Images available upon request)





Photo 1. The proposed location for the removal of waste rock and new electrical switchgear pad.



Photo 2. A side view of the proposed location for the electrical switchgear pad.



Photo 3. Green Creek Weir.



Photo 4. The 920 Bridge.



Photo 5. Sediment collection sump.



Photo 6. The 920 warehouse storage area.



Photo 7. Grease and rock salt stored inside a container with secondary containment.



Photo 8. The 7.4 Mile B-road Bridge (Killer Creek).



Photo 9. Splashguards are effectively working to prevent sediment splash over.



Photo 10. Road base material staged at Site E.



Photo 11. Waste rock staged at Site E.



Photo 12. 3.4 Mile B-road Bridge (Falls Creek Bridge).



Photo 13. Sediment accumulation at the bridge end.



Photo 14. Splashguard rail at the Falls Creek Bridge.



Photo 15. 3.0 Mile B-road Bridge (Zinc Creek Bridge).



Photo 16. Zinc Creek Bridge splashguard rail.



Photo 17. The new wheel wash station.



Photo 18. Wheel wash station washing area.



Figure 19. The wheel wash station drainpipe to Pond 7.



Photo 20. The wheel wash station drainage pipe routing water to Pond 7.



Photo 21. TDF personnel compacting tailings in the S3P1 area.



Photo 22. Pond 7.



Photo 23. Pond 10.



Photo 24. The TDF water treatment plant.



Photo 25. The three monitoring well installed for HGCMC's feasibility study.

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