INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
8510 Mendenhall Loop Rd
Juneau, AK 99801
(907) 789-6273 – office
(907) 586-8808 – fax

Date of Inspection: Friday August 4, 2017
Date of Report: Monday August 21, 2017
USDA Forest Service Inspector: Richard Dudek

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: Sunny Temperature: mid 60'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 to and a Cessna 206 from site.

Mitch Brooks (Environmental Engineer, Hecla Greens Creek Mining Company (HGCMC)) accompanied Richard Dudek (Geologist, US Forest Service (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, 3.4 mile B-road Bridge, 3.0 mile B-road Bridge, the TDF area, and the Sand pit (1.4 mile A-road).

ACTION ITEMS

- There are no new action items to report.

NOTE WORTHY ITEMS

Once the 920 warehouse expansion is completed, contractors will begin the construction for the new TDF truck wash.

The 3.0 mile B-road Bridge (Zinc Creek Bridge) will be re-decked/relined in mid-August 2017.

ACCESS ROADS A /B

The access roads are in good condition, and comply with HGCMC's BMP Plan Appendix 8 for Road Operations and Maintenance. Surface operations recently improved sections of the drainage ditch along the 2.0-2.6 mile B-road (Photo1). The improvements made were to manage stormwater runoff, and

channel water more effectively. After the improvements made to the ditch, HGCMC personnel applied hydroseed to stabilize the soils (Appendix 5 BMP Plan; page 13).

1350 AREA
The trench and pump are working as intended (Photo 2), and the grass is growing well in the area. The trench and pump are located approximately 200 feet upgradient from FWMP site 13.

920 AREA
The recorded flow rate for Greens Creek (Photo 3) on 08/04/2017 was 33.5 cubic feet per second (cfs), and the daily water withdrawal for the 920 water system remains at 1.5 cfs.

HGCMC Surface operations are properly maintaining the 920 Bridge, and the splashguards are effectively working by preventing sediment splash over into Greens Creek.

The 920 warehouse expansion's foundation frame (Photo 4) is completed. At the time of the site inspection, contractors were performing maintenance on the cement batch plant (Photo 5). Once the maintenance is completed, cement trucks will begin hauling the cement for the foundation.

The 920 warehouse storage area (Photo 6) meets the guidelines for good housekeeping practices (Appendix 5 BMP Plan; pages 39-40).

SITE 23
HGCMC continues to utilize Class 1 waste rock (Photo 7) on the outer slopes of the TDF, and additional Class 2/3 waste rock (Photo 8) was recently stockpiled at this location (Appendix 1; Section 3.1).

POND C (OUTFALL 007)
Pond C is a stormwater runoff retention pond for the 860 area. Both upper/lower ponds (Photos 9-10) were functional, and the site was well kept (Appendix 5 BMP Plan; page 8).

POND D (OUTFALL 006)
Pond D is a stormwater runoff retention pond for site D (Photo 11). The retention pond is currently functioning as intended, and the site was in order (Appendix 5 BMP Plan; page 7).

7.4-MILE B-ROAD BRIDGE (KILLER CREEK BRIDGE)
On 8/02 /2017, HGCMC personnel re-decked and re-lined the bridge (Photo 12). The bridges splashguards appear to be effectively working by preventing sediment splash over into the creek (Photo 13).

Vegetation has established on the downhill abutment (Photo 14). This mitigation will help stabilize the slope and prevent sediments from entering the creek (Appendix 5 BMP plan; page 13). New bridge designs are in progress, and in 2019 HGCMC could potentially replace the bridge.

3.4-MILE B-ROAD BRIDGE (FALLS CREEK BRIDGE)
On 8/03/2018, HGCMC personnel re-decked and relined the bridge (Photo 15). Residual sediments from surface water runoff remain under the bridge (Photo 16). Surface operations will continue to monitor the accumulation around the bridge, and will remove the sediments when deemed necessary (Appendix 5 BMP Plan; page 19). New bridge designs are in progress, and in 2018 HGCMC could potentially replace the bridge.

3.0-MILE B-ROAD BRIDGE (ZINC CREEK BRIDGE)
HGCMC plans to re-deck and reline the bridge in mid-August 2017 (Photo 17). HGCMC Environmental operations have a tentatively scheduled plan to clean out the abutment drainpipe (Photos 18-19). The BMP structures located on the uphill/downstream side are functioning as intended (Photo 20). The maintenance for the 3.1 mile B-road removable sediment screen (Photo 21) is included with the inspection/mucking of these BMP structures (Appendix 5 BMP Plan; pages F-34, F-35).

TDF AREA
HGCMC continues to deposit tailings in the S3P1 TDF expansion area (Photo 22). The construction for the concrete flow control structure is completed (Photo 23). HGCMC is currently engaged in the review process with the Alaska Department of Natural Resources (ADNR) Alaska Dam Safety Program for authorization to use Pond 10 (Photo 24) and the concrete flow control structure.

At the time of this inspection, the water treatment plant was discharging 590 gallons of water per minute (gpm) through outfall 002. All discharge through this outfall "002" is limited and monitored per APDES permit requirements. The water treatment (Photo 25) plant was tidy and in order (Appendix 5 BMP Plan; pages 39-40).

HGCMC personnel recently hydroseeded the northwest slopes (Photo 26) of the TDF area.

SAND PIT (1.4 MILE A-ROAD)
This site is currently inactive (Photo 27).

FOLLOW UP ITEMS
TDF area
B-road bridges
3.0 mile B-road Bridge (Zinc Creek Bridge)

PHOTOS (Images available upon request)

Photo 1. Improved drainage ditch in the vicinity of 2.0 Mile B-road.

Photo 2. The 1350 trench and pump.

Photo 3. An upstream image of Greens Creek.

Photo 4. The foundation frame for warehouse expansion.

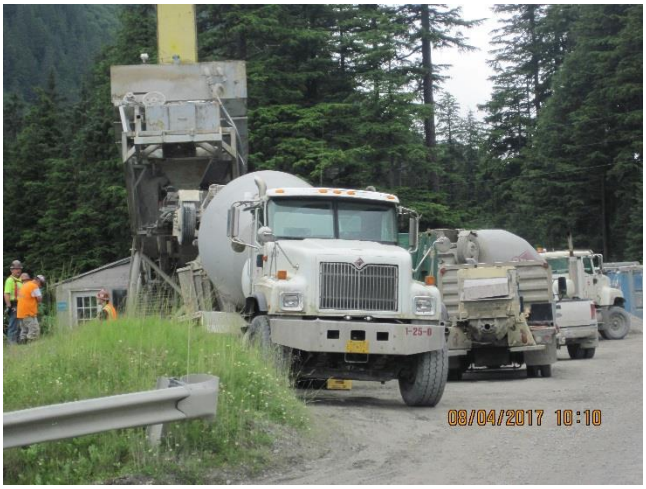

Photo 5. The batch plant located at 8.0 mile B-road.

Photo 6. 920 warehouse storage area.

Photo 7. Class 1 waste rock.

Photo 8. Class 2/3 waste rock.

Photo 9. Upper Pond C.

Photo 10. Lower Pond C.

Photo 11. Pond D.

Photo 12. 7.4 mile B-road bridge (Killer Creek Bridge).

Photo 13. 7.4 mile B-road Bridge splashguards (Killer Creek Bridge).

Photo 14. Image shown is the downhill side abutment for Killer Creek Bridge.

Photo 15. The 3.4 mile B-road bridge (Falls Creek Bridge).

Photo 16. Sediments observed below Falls Creek Bridge.

Photo 17. 3.0 mile B-road bridge (Zinc Creek Bridge).

Photo 18. White precipitate exiting the abutment drain (Image 1 of 2).

Photo 19. The White precipitate was observed on the ground below the drain's outlet (Image 2 of 2).

Photo 20. 3.0 mile B-road bridge (Zinc Creek Bridge) uphill abutment BMP's.

Photo 21. 3.1 mile B-road removable sediment screen.

Photo 22. S3P1 TDF expansion area.

Photo 23. Pond's 7 and 10 concrete flow control structure.

Photo 24. TDF area Pond 10.

Photo 25.The TDF water treatment plant.

Photo 26. The slopes of the northwest TDF slope was hydroseeded.

Photo 27. Sand Pit (1.4 mile A-road).

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