



## INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group  
8510 Mendenhall Loop Rd  
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Date of Inspection: Thursday November 30, 2017  
Date of Report: December 29, 2017  
USDA Forest Service Inspector: Richard Dudek

Ranger District: Admiralty National Monument, Juneau Ranger District  
Weather Conditions: Cloudy with rain Temperature: low 30'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, Hecla Greens Creek mining company (HGCMC)) accompanied Richard Dudek (Geologist, United States Forest Service (USFS)). Edward Gazzetti (Hydrologist, USFS).

The site inspection included the A and B access roads, 920 area, Site 23, 7.4 mile B-road Bridge (Killer Creek Bridge), 5.4 mile B-road (vicinity), 3.4 mile B-road Bridge (Falls Creek Bridge), 3.0 mile B-road Bridge (Zinc Creek Bridge), the Tailings Disposal Facility (TDF), and the Sand Pit (1.4 mile A-road).

### ACTION ITEMS

- **Snow removal is required at the 920 Bridge and the ore pad access road.**

### NOTE WORTHY ITEMS

HGCMC has hired contractors to conduct geotechnical drilling for a feasibility study in the northern TDF area (Photos 1-2).

### ACCESS ROAD B

Due to freeze and thaw conditions, sections along the B-road have developed erosional features (potholes and ruts), which require maintenance. When warmer weather conditions persist, Surface operations will conduct routine maintenance on the access roads (Appendix 8 Road Operations and Maintenance; Table 8.1).





## **920 AREA**

The recorded volumetric flow rate for Greens Creek (Photo 3) on 11/30/2017 was 13.2 cubic feet per second (cfs) and the water withdrawal for the 920 system remains at 1.5 cfs.

Due to rugged driving conditions, which may lead to haul trucks accidently spilling ore, snow removal is required at the 920 Bridge ends and road leading to the ore pad (Photo 4-5).

De-grit Basin 01 (DB-01) was in use during the site inspection (Photo 6). All melt water in DB-01 is routed to Pond-A and sediments will be disposed of in the TDF.

Good housekeeping practices were observed inside the warehouse (Photos 7-8) and in the conexas (Appendix 5 BMP plan; page 39).

HGCMC recently incorporated drilling steel into the recycling program (Photo 9).

## **SITE 23**

HGCMC continues staging Class 1 waste rock along the site's perimeter (Photos 10-11), and additional Class 2/3 waste rock has been recently deposited at this location. De-grit basin 03 (DB-03) is working as intended (Photo 12), and melt water from the basin is reporting to Pond 23 which is routed to the TDF water treatment plant before discharge.

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

Surface operations are removing snow from the bridge's surface, and the splashguards are effectively preventing sediment splash over from vehicular traffic (Photos 13-14).

## **5.6 MILE B-ROAD**

Geotechnical drilling has concluded in the vicinity of the 5.6 mile B-road. The drilling activities that took place in this area included installing four inclinometers for monitoring slope stability and four piezometers for monitoring head pressure in groundwater (Photos 15-17). The areas where drilling activities took place have been partially reclaimed as per the requirements stated in the approved 2017 Drill Program for B-Road Stability Monitoring. When the winter season ends, HGCMC will apply hydro-seed to the disturbed areas to establish vegetation to complete the reclamation.

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

Surface operations are plowing snow from the bridge's surface, and the splashguards are effectively working by preventing vehicular traffic splash over of sediments into the creek (Photos 18-19).

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

HGCMC personnel are removing snow from the bridge's surface (Photo 20) and the structural BMP's located on the downstream/uphill side abutment are covered in snow.

## **2.5 MILE B-ROAD**

Two privately owned bicycles were found chained to an electrical post in the vicinity of the 2.5 mile B-road (Photo 21). It is believed that hunters own the bicycles, and use them as transportation while hunting along the B-road. These bicycles when used are a safety concern due to the high volume of traffic along the B-road, which may result in personal injury or damage to HGCMC's equipment.





### **TDF AREA**

Contractors continue with the construction of the new TDF wheel wash station (Photo 22).

HGCMC TDF personnel continue to deposit tailings in the S3P1 area (Photo 23). The 2017 year to date total of tailing deposited in the expansion area is approximately 301,000 tons.

The recorded flow rate on 11/28/2017 for the water treatment plant was 1,200 gallons per minute (gpm). The monthly average discharge rate for November through Outfall 002 was 903.2 gpm. All water discharged through Outfall 002 is limited and monitored per APDES permit requirements. The water treatment plant was tidy and in order (Photo 24).

During the site visit, contractors continue to work on the concrete flow control structure for ponds 7 and 10 (Photo 25).

The gravel (Photo 26) staged at this location will be used as ballast material to counter upwelling for the above liner at Pond-10.

### **ACCESS ROAD A**

The A-road was in adequate condition, from the junction to Young's Bay (Photo 27), with snow removed/plowed from the road, and pea gravel was placed for traction (Appendix 8 Road Operations and Maintenance; page 8-5).

### **SAND PIT (1.4 MILE A-ROAD)**

This area is currently inactive (Photo 28).

### **FOLLOW UP ITEMS**

**Conduct a site inspection of the TDF area and facilities.**

**Inspect the B-road bridges for sedimentation at the bridge ends.**

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**PHOTOS** (Images available upon request)

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**Photo 1. A drill rig that will be used for conducting a feasibility study in the northern TDF area.**



**Photo 2. One of two locations for geotechnical drilling in the northern TDF area will take place.**



**Photo 3. The Greens Creek weir is located in the 920 area.**



**Photo 4. The 920 Bridge.**



**Photo 5. Snow mixed with sediments has created rugged driving conditions near the 920 Bridge.**



**Photo 6. De-grit basin 01 (DB-01).**



Photo 7. The 920-warehouse storage area.



Photo 8. Petroleum products stored within secondary containment.



Photo 9. New storage container for used drilling steel is located in the 920 recycling staging area.



**Photo 10. Class 1 waste rock stockpiled at Site 23.**



**Photo 11. Class 2/3 waste rock at Site 23.**



**Photo 12. DB-03 and Pond 23 located down gradient of Site 23.**



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



**Photo 14. Splashguards for the 7.4-mile B-road Bridge.**



**Photo 15. The location for where geotechnical drilling took place along the 5.6 mile B-road.**



**Photo 16. installed inclinometer.**



**Photo 17. The inclinometers installed will be used for monitoring slope stability.**



**Photo 18. The 3.4 mile B-road Bridge (Falls Creek Bridge).**



**Photo 19. The splashguards are effectively working by preventing sediment splash over.**



**Photo 20. The 3.0-mile B-road Bridge (Zinc Creek Bridge).**



**Photo 21. Two privately owned bikes were found chained to an electrical post in the vicinity of the 2.0 mile B-road,.**



**Photo 22. Contractors continue with construction of the TDF's new wheel station.**



**Photo 23. HGCMC TDF personnel continue to place tailings in the S3P1 area.**



**Photo 24. HGCMC's water treatment plant.**



**Photo 25. The concrete flow control structure for Pond's 7 and 10.**



**Photo 26. The material staged near Pond-10 will be used as ballast material.**



**Photo 27. The end of the A-road is Young's Bay parking area for the crew bus.**



**Photo 28. The Sand pit.**

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

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