INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
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Date of Inspection: Thursday October 1, 2020
Date of Report: Thursday October 15, 2020
USDA Forest Service Inspector: Richard Dudek

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: Partly Cloudy/sunny. Temperature: High 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	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

To comply with COVID-19 safe travel policies, a Forest Service (FS) boat was used to transport FS personnel to and from the mine site.

While on-site, FS personnel did not enter any buildings and maintained a 6-foot social distance buffer with Hecla Greens Creek Mining Company (HGCMC) personnel.

Gunnar Fredheim (Environmental Specialist, (HGCMC)) accompanied Richard Dudek (Geologist, United States Forest Service (USFS)), and William Dryer (Hydroloigist, USFS).

The site inspection included: The A and B access roads, the 1350 area, 920 area, Pond C, Site 23, 7.4 mile B-road Bridge (Killer Creek Bridge), MSE Wall 5.4 mile B-road, 3.4 mile B-road Bridge (Falls Creek Bridge), 3.0 mile B-road Bridge (Zinc Creek Bridge), and the Tailings Disposal Facility (TDF).

ACTION ITEMS

- **The 3.4 and 920 bridges require removal of accumulated sediment at the bridge ends.**

NOTEWORTHY ITEMS

- **Surface Operations recently ordered two agriculture irrigation sprayers to use for the TDF. These irrigation sprayers are intended to help mitigate fugitive dust from the TDF.**

A/B-ROADS
On 10/1/2020, the A/B-roads were in adequate condition. Recenly, HGCMC Surface Operations added roller compacting to their road maintenance protocols (Appendix 08 Road Operations and Maintenance; Table 3-2).

1350 AREA
The pump for 1350 trench is functioning as designed (Photo 1).

920 AREA
The recorded flow rate for Greens Creek (Photo 2) on 10/1/2020 was 38.2 cubic feet per second (cfs). The 920-area water withdrawal rate from Greens Creek was approximately 1.5-cfs.

The 920 Bridge's splash guards are working as designed to prevent sediment splash over the bridge from vehicular traffic (Photo 3). Sediment accumulation was observed at the bridge ends, and requires cleaning.

Good housekeeping practices were observed at the 920 warehouse (Appendix 5 BMP Plan page 39). All petroleum/chemicals observed were properly stored within appropriate secondary containment (Photo 4).

POND C
The installation for upper Pond C's arctic pipeline is completed (Photos 5-6).

SITE 23
HGCMC continues to separately store Class 1 waste rock from Class 2/3 waste rock (Photo 7). The classification is due to the rock's acid neutralization/generation pontential (Appendix 1 §3.1 page 3-1).

7.4-MILE B-ROAD BRIDGE (KILLER CREEK BRIDGE)
The bridge's splashguards are functioning as designed preventing sediment splashover from vehicular traffic (Photo 8).

5.4 B-ROAD MSE WALL
The mechanially stabilzed earth (MSE) wall is functioning as intended. The data collected from the surveying instruments, and inclinometers are analyzed by HGCMC Engineering to monitor soil creeping and slope stability (Photo 9).

3.4-MILE B-ROAD BRIDGE (FALLS CREEK BRIDGE)
The bridge's splashguards are working as intended by preventing sediment splashover from traffic (Photo 10). Sediment removal is required at the bridge ends (Photo 11).

3.0-MILE B-ROAD BRIDGE (ZINC CREEK BRIDGE)
The bridge's splashguards are functioning as designed, preventing sediment splashover from vehicular traffic (Photo 12). The uphill side abutment BMPs are functioning as designed, (Photo 13). Recently, HGCMC Surface Operations removed sediment accumulation undernearth the bridge, and re-installed compost wattles (Photo 14). The aluminum precipitate, or white material continues to be obsevered at the uphill side abutment drain (Photo 15). This drain was cleaned by Surface Operations in August of 2020. HGCMC Surface Operations plan to modify the end of the pipe to keep oxygen out. This

mitigation will not remove the aluminum. However it may help prevent future buildup of precipitate in the pipe.

TAILINGS DISPOSAL FACILITY (TDF) AREA

At the time of the inspection, Pond 7 (Photo 16) was collecting mine site water, and Pond 10 (Photo 17) was collecting direct precipitation.

On 10/1/2020, the TDF water treatment plant was receiving approximately 1,301-gpm of influent water and was treating/discharging 505-gpm.

Surface Operations continue to deposit tailings in the S3P1 expansion area (Photos 18-19).

FOLLOW UP ITEMS

Inspect the 920 area.
Inspect the B-road Bridges and their associated BMPs.
Conduct a site inspection of the TDF area.

PHOTOS (Images available upon request)

Photo 1. The 1350 area trench and pump.

Photo 2. Greens Creek.

Photo 3. The 920 Bridge.

Photo 4. Storage containers at the 920 warehouse.

Photo 5.The new arctic pipeline for upper C pond.

Photo 6. The blue markers show the location for C Pond's buried pipeline.

Photo 7. Site 23 Class 2/3 waste rock.

Photo 8. 7.4 B Road Bridge (Killer Creek Bridge).

Photo 9. The MSE wall.

Photo 10. 3.4 B Road Bridge (Falls Creek Bridge).

Photo 11. Sediment removal is required at the bridge ends.

Photo 12. 3.0 Mile B Road Bridge (Zinc Creek Bridge).

Photo 13. The 3.0 Mile B Road abutment uphill side BMPs.

Photo 14. New compost wattles were placed and seeding undreneath the bridge.

Photo 15. The zinc creek abutment drain.

Photo 16. Pond 7.

Photo 17. Pond 10.

Photo 18. The S3P1 area.

Photo 19. The southern section of the S3P1 area has been hydroseeded.

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