INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group 8510 Mendenhall Loop Rd Juneau, AK 99801 (907) 789-6275 – office (907) 586-8808 – fax Date of Inspection: Thursday October 24, 2019 Date of Report: Friday November 1, 2019 USDA Forest Service Inspector: Richard Dudek

Ranger District: Admiralty National Monument, Juneau Ranger District Weather Conditions: Cloudy with some rain. Temperature: Mid 40's (°F).

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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 206 floatplane to and from site.

David Landes (Environmental Engineer, (HGCMC)) accompanied Richard Dudek (Geologist, United States Forest Service (USFS), Matthew Reece (Minerals Program Manager (USFS)), Timothy Marshall (Heritage (USFS)).

The site inspection included: Both A and B access roads, 920 area, 860 area, Site D, 7.4 mile B-road Bridge (Killer Creek Bridge), 3.4 mile B-road Bridge (Falls Creek Bridge), 3.0 mile B-road Bridge (Zinc Creek Bridge), the Tailings Disposal Facility (TDF).

ACTION ITEMS

 Additional mitigations are required to prevent further erosion along the 7.4 Mile B-Road Bridge downhill side abutment.

NOTEWORTHY ITEMS

On 10/31/2019, Surface operations plan to replace the wear layer decking for the 3.0 Mile B road Bridge (Zinc Creek Bridge).

A/B ACCESS ROADS

On 10/24/2019, Both the A-road and B-road were in adequate condition. At the time of this inspection, Surface Operations were conducting routine road grading along the B-road (Appendix 8 Road and Maintenance Operations Table 8-1; page 8-9).

920 AREA

The recorded flow rate for Greens Creek (Photo 1) on 10/24/2019 was 71.01 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 preventing sediment splash over from vehicular traffic (Photo 2).

The electrical switchgear box is online and is supplying power to the underground mine (Photo 3).

Good housekeeping practices were observed at The 920 warehouse (Photo 4). All petroleum/chemicals were properly stored within appropriate secondary containment (Photo 5).

860 AREA (C POND)

At the time of the site inspection, C pond was functioning as intended (Photo 6). The diesel-powered pump will remain on site as as backup to the primary electrical pumps.

SITE D (D POND)

The pond was functioning as intended (Photo 7). The diesel-powered pump (Photo 8) staged here will remain on site and serve as backup power to the primary electric pumps.

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

The bridge is being maintained by HGCMC Surface Operations (Photo 9). Some erosion was observed on the downhill side abutment and requires mitigations to prevent further erosion (Photo 10). Surface Operations recently made improvements to the sediment sump by installing straw wattles, and mucking out the sediments (Photo 11).

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

The bridge is being maintained by HGCMC Surface Operations (Photo 12). Surface Operations recently re-decked and installed a new liner for the bridge's biennial maintenance. Sediment accumulation at the bridge ends exceed the sediment barrier's design criteria height of one-third, and need to be removed (Photo 13) (Appendix 05 BMP Plan; page BMP-12).

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

HGCMC Surface Operations are maintaining the bridge (Photo 14), and the structural BMPs located on the uphill side abutment are functioning as intended (Photos 15-16).

TAILINGS DISPOSAL FACILITY (TDF) AREA

Surface Operations continue depositing tailings in the S3P1 expansion area (Photo 17).

On 10/24/2019 the water treatment plant was treating 1796-gpm. Good housekeeping practices were observed inside the water treatment plant (Appendix 5 BMP Plan page 39).

Pond 7 (Photo 18) was collecting mine site water, and recirculated water from the TDF water treatment plant. Pond 10 (Photo 19) is only collecting direct precipitation.

FOLLOW UP ITEMS Inspect the 920 area. Inspect the B-road Bridges and their associated BMPS. Conduct a site inspection of the TDF and facilities.

PHOTOS (Images available upon request)



Photo 1. Greens Creek weir.



Photo 2. The 920 Bridge.



Photo 3. The electrical switchgear for the underground mine.



Photo 4. The 920 warehouse storage area.



Photo 5. Petroleum products stored within secondary containment.



Photo 6. Lower C Pond.



Photo 7. D Pond.



Photo 8. The auxiliary pump for D pond.



Photo 9. 7.4 Mile B-Road Bridge (Killer Creek Bridge).



Photo 10. Erosion along the downhill side abutment.



Photo 11. Surface Op's installed straw wattles along the sediment sumps.



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



Photo 13. The removal of sediments is required along the 3.4 Mile B-Road Bridge sediment barriers.



Photo 14. 3.0 Mile B-Road Bridge (Zinc Creek Bridge).



Photo 15. BMPs (sediment sumps) along the uphill abutment.



Photo 16. The stand pipe discharge line with a silt sock attached at the opening.



Photo 17. The Stage 3 Phase 1 (S3P1) tailings expansion area.



Photo 18. Pond 7.



Photo 19. Pond 10.

Thanks to HGCMC for a safe visit.

U.S. Forest Service Officer: /s/ Richard Dudek