



INSPECTION REPORT: GREENS CREEK MINE

Tongass National Forest Minerals Group
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Date of Inspection: Thursday, July 17, 2014
Date of Report: Tuesday, July 23, 2014
USDA Forest Service Inspector: Curtis Caton

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: partly cloudy. Temperatures in the mid 50's (°F).

Exploration in accordance with operating plan	Not Inspected
Timber removal following timber sale contract	Not Applicable
BMPs for erosion control	Satisfactory
Water Quality BMPs	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 De Havilland Beaver provided transportation to and from site.

Gunnar Friedheim (Environmental Technician, Hecla Greens Creek Mining Company) accompanied George Bisset (Surveyor, Forest Service) Sarah Samuelson (Geologist-R10 Liaison, Forest Service), Matthew Reece (Minerals Program Manager, Forest Service), and Curtis Caton (Geologist, US Forest Service) on this inspection. The emphasis of this visit was to verify the survey of the new lease boundary for the Tailings Disposal Facility expansion. The site inspection included the A and B access roads, Tailings Disposal Facility (TDF), 920 Ditch, Pond A, 920 Warehouse, Mill area, Zinc Creek Bridge, and 1.7 pit on the A road.

ACCESS ROADS

The A and B access roads are in good shape, BMPs have been effective at reducing erosion and storm water runoff. Appendix 8 (Road Maintenance), section 3 of the General Plan of Operations discusses how HGCMC will maintain access roads in varying surface conditions.

920 WAREHOUSE

HGCMC has acquired new sea vans that fulfill secondary containment requirements (Photo 01-02). The new sea vans are more weather resistant than the curtained sea van (Photo 03). The estimated containment volume of the new sea van (8'x 20'x 0.25'), on a level surface, is approximately 299 gallons. This volume is sufficient for most of the containers in the 920 area except for the larger volume reinforced totes, which will still need to be stored on concrete or in secondary containment with sufficient volume (Photo 04-05). However, modifying the lip from 3" (.25') to 4" (.33') would increase





the volume of the new sea van to approximately 400 gallons. Section 4.3.1 of the BMP plan states that all process areas where chemicals are stored, drain across concrete surfaces to the lined containment ditch, which flows to Pond A. Additionally, the General Plan of Operations states that secondary containment is considered 110% of the largest tank within the containment.

POND A

Pond A is lined with a synthetic liner and serves as a secondary settling basin and equalizing storage basin to eliminate release of collected storm water that may have come into contact with ore, concentrate, or other site materials.

HGCMC recently stabilized the outer berm of Pond A. Greens Creek had undercut the riprap along the stream bank, causing instability in the outer berm of Pond A. HGCMC made repairs within the existing footprint of Pond A as approved in the surface operations 2014 work plan (Photos 06-07).

920 DITCH

The 920 ditch is a gravity controlled lined ditch that leads to a concrete settling basin (degrit basin) then drains to a lined retention pond. The ditch is located along the improved edge of the 920 footprint and runs from the administration building to Pond A. Surface runoff at the mine/mill site from all process areas, including areas where chemicals are stored, drain across concrete surfaces to the lined 920 ditch (Appendix 5, section 4.3.1 and in Appendix 6, section 5.2). The 920 ditch serves as secondary containment barrier by reporting all liquid draining from the improved surface to Pond A.

The 920 ditch was repaired as approved in the surface operations 2014 work plan (Photos 08-09). The repairs to the 920 Ditch eliminated sediment loading within the ditch, which will minimize reoccurring surface maintenance.

MILL AREA

HGCMC surface operations 2014 work plan proposed more surface improvement (concrete overlay) between the 920 shop and the 920 powerhouse, which was recently completed. The 2014 surface improvement is part of a multiyear effort by HGCMC to overlay the 920 area.

HGCMC reported a spill and cleanup was taking place during this inspection. Surface crews are excavating contaminated overburden for remediation (Photos 10-12).

An unlabeled barrel with an unknown substance was not in secondary containment (Photo 13).

ZINC CREEK BRIDGE

The B road crosses Zinc Creek at approximately mile marker 3.0. BMPs for stormwater outfall 005.2 (west side Zinc Creek Bridge) comply with Appendix 5 of the General Plan of Operations. Hydroseeding, silt fencing, and sediment barriers have minimized erosion on the Zinc Creek Bridge access road (Photos 14-16).

TDF

Surface crews are increasing the elevation of the monitoring stations in the East Ridge expansion to prevent burial by tailings (Photos 17-19). The monitoring stations are fixed locations where data from a vibrating line piezometer and suction lysimeter are collected.



PIT 7

Pit 7 is borrow and overburden storage area located on the A road at approximately mile marker 1.7.

Canada thistle an invasive plant is growing near Pit 7 in previous inspections and has germinated again. Mitigation by HGCMC has been manual pulling and the use of tarps to cover the affected area (Photo 20). Both methods have been successful to prevent the spread of Canada thistle.

FOLLOW UP ITEMS

- Spill cleanup near the mill
- Invasive plants at Pit 7
- Culvert at Pit 7
- Secondary containment at the 920 Warehouse

PHOTOS

(High-resolution version of all images available upon request)



Photo 01. New sea van in use at the 920 Warehouse.



Photo 02. Front lip of sea van that could be modified.



Photo 03. Moisture collecting in the basin of a curtained sea van.



Photo 04. Large volume reinforced totes.



Photo 05. Tote with approximately 330 gallons stored in containment designed for 299 gallons.



Photo 06. Repaired riprap along outer berm of Pond A.



Photo 07. Repaired riprap along outer berm of Pond A.



Photo 08. Repaired 920 ditch.



Photo 09. Repaired 920 ditch.



Photo 10. Spill cleanup.



Photo 11. Spill cleanup.



Photo 12. Spill cleanup.



Photo 13. Unlabeled barrel not in secondary containment.



Photo 14. Zinc Creek Bridge access road.

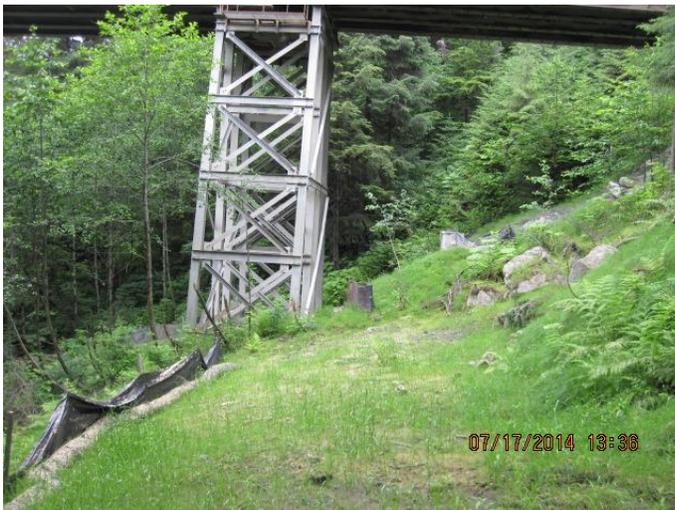


Photo 15. Zinc Creek Bridge access road.



Photo 16. Zinc Creek Bridge access road.



Photo 17. TDF East Ridge Expansion monitoring locations.



Photo 18. TDF East Ridge Expansion monitoring locations.



Photo 19. TDF East Ridge Expansion monitoring locations.



Photo 20. Canada thistle at Pit 7.

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