



Inspection Report: Hecla Greens Creek Mine

Tongass National Forest, Minerals Group
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Date of Inspection: Thursday, September 19, 2013
Date of Report: Tuesday, November 05, 2013
USDA Forest Service Inspector: David Schmerge

Ranger District: Admiralty National Monument, Juneau Ranger District
Weather Conditions: Light rain, temperature about 50.

Table with 2 columns: Inspection Item and Status. Items include Exploration in accordance with operating plan (Not Checked), Timber removal following timber sale contract (Not Applicable), BMPs for erosion control (Satisfactory), Water Quality BMPs (Satisfactory), Public safety and fire (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), and 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 letter to the operator, outlining the necessary work.\*\*

NEW REMARKS AND SUGGESTIONS

Mitch Brooks (Hecla Greens Creek Mining Company) accompanied David Schmerge (Hydrologist, U.S. Forest Service), Ellen Anderson (Botanist, U.S. Forest Service), and Dave Wilfong (Engineering Assistant, ADNR) on this inspection. On the A Road, we visited Young Bay, Pit 7, and the pit at mile 1.4. On the B road, we visited the tailings facility, Zinc Creek Bridge, Site E, Site 23, the 920 area, the 1350 area, and the warehouse storage area at the mill.

YOUNG BAY

At the Young Bay dock, there was no evidence of runoff, erosion, or fuel or oil spills. Water quality BMPs appear to be effective at Young Bay.

PIT 7

Several species of invasive plants are still present at Pit 7. Canada thistle is less abundant than a year ago (photo 01); Mitch said they have pulled the plants several times this year before they were blooming. Several plants of Tansy were found again as well, but it was not in bloom (photo 02). Mitch said they have not pulled the Tansy this year, but they will pull it.

1.4 MILE A ROAD PIT

Some erosion was observed along the edge of the A Road at the 1.4 mile A road pit (photo 03), but there was no apparent impact to any water body. Road maintenance work to repair the





damage should be done as soon as practical.

#### TAILINGS FACILITY

We discussed the presence of the invasive plant *Crepis tectorum* (Narrowleaf hawkbeard) that was found last year at the tailings facility and site E (photo 04). The plant is too abundant to be practically pulled, but the 2013 FEIS (section 3.10.3.1) requires the removal of existing invasive plant populations. Before the plant is eradicated, a process beginning with a minimum requirements analysis will need to be completed. The form to use to for the minimum requirements analysis is called the "Minimum Requirements Decision Guide." It may also be necessary to have approval from the State.

#### ZINC CREEK BRIDGE

Maintenance work was conducted this summer around the Zinc Creek bridge. The spur road on the north side of the creek has been re-established by clearing small trees and rocks (photo 05). Accumulated sediment under the bridge has been removed, and the silt fences have been repaired (photo 06). Lime was applied to the north abutment in August to mitigate the historically low pH values caused by acid generation from the rocks used to construct the abutment. This site should be added to the Freshwater Monitoring Plan in order to monitor the effectiveness of the mitigation efforts.

Stormwater runoff was found on the south side of the bridge, (photos 07 and 08) and turbid water could be seen draining into Zinc Creek. Mitch told me that they would work on it, and on September 30, Chris Wallace (Environmental Manager, Hecla Greens Creek Mining Company) informed me that the problem had been addressed.

Straw logs were being used (photo 07) to control erosion. I found no discussion of their use in the Plan of Operations, but the 2013 FEIS states in section 3.10.3.1 that erosion control materials should be weed seed free. Chris sent me a fact sheet from Northwest Linings & Geotextile Products, Inc. that indicates that PermeaLok Straw Logs are 100% free of noxious weed seed and non-straw plant residue.

Sediment was found on top of the splash guards of Zinc Creek Bridge (photo 09). This suggests that some sediment may be splashed over the splash guards and fall directly into the Creek. Site specific BMPs for the bridge are found on page 5-46 of the Greens Creek Best Management Practices Plan. It states that splash guards should be extended as needed. Therefore, the height of the splash guard should be extended enough to prevent sediment from being splashed directly into the creek.

#### SITE E

No waste rock has been removed from Site E this year. However, after the recent Record of Decision on the Greens Creek Mine Tailings Disposal Facility Expansion Final Environmental Impact Statement, it is more likely that material will be removed from Site E next year. We walked the perimeter of the site and discussed the condition of the silt fence and the presence of straw bales (photo 10). The silt fence is generally in poor condition. This is not presently a significant concern because the site has not recently been disturbed. However, water quality exceedances have occurred at this site in the past, and during periods of disturbance, water quality exceedances are more likely. Therefore, it is recommended that the silt fence be repaired before the waste rock is moved from site E to the tailings facility. The 2013 FEIS states in section 3.10.3.1 that the use of hay or straw bales for erosion control is to be avoided. Therefore, the bales should be removed.

#### SITE 23

About 5,500 cubic yards of waste rock was removed from the 1350 area this summer and placed on a liner at Site 23 (photo 11).

#### 920 AREA

A multi-year project is underway to improve deteriorated roadways, add new concrete pavement





in currently uncontained areas, and to overlay stable roadway surfaces to improve drainage problems in and around the 920 area of the mine. This summer, the Greens Creek bridge and portal road were overlain with 4 to 6 inches of concrete, and the wall and splash barrier were then completed (photo 12). This allows surface water to be contained at the edge of the creek and pumped to the mine's main sump.

#### 1350 AREA

The 1350 area has recently been seeded after waste rock was removed from the site (photo 13). An estimated 15,000 cubic yards of waste rock still needs to be removed from the site.

#### WAREHOUSE STORAGE AREA AT THE MILL

There are ongoing concerns regarding the storage of chemicals at the warehouse storage area at the mill. I found two sea vans storing chemicals without secondary containment (photos 14 and 15), and there was an uncontained chemical spill outside one of the sea vans (photo 16). In the last Forest Service inspection report, Jessica Lopez Pearce stated, "Mitch said that secondary containment structures for warehouse items will be installed in the fall of 2013." I questioned Mitch about this, and he described these structures as sea vans with the secondary containment built into them. However, this does not meet the requirement of the Greens Creek BMP Plan (Plan). The Plan states on page 5-21 that chemicals are to be stored in areas that drain across concrete surfaces to the lined containment ditch which flows to Pond A. The sea vans at the warehouse storage area are not on concrete. I talked to Chris about this and advised him that Greens Creek should either comply with the Plan by storing all chemicals on concrete surfaces that drain to Pond A, or submit a modified BMP Plan that allows the storage of chemicals in these new secondary containment structures off of the concrete. I also informed Chris that a modified BMP Plan would need to be approved by the Forest Service and ADEC.

#### ACTION ITEMS

1. A meeting between Hecla and the Forest Service should be scheduled to discuss the eradication of invasive plants at Greens Creek.
2. All hay and straw bales should be removed, and their use should be discontinued. The BMP Plan should be modified to reflect this change.
3. Monitoring of pH at the Zinc Creek Bridge should be added to the Fresh Water Monitoring Plan in order to determine the effectiveness of the application of lime to mitigate the low pH values.
4. The chemicals at the warehouse storage area should be moved to a concrete surface that drains to Pond A as soon as practical. Alternatively, a revised BMP Plan should be submitted for approval.

Thanks to Greens Creek for a safe and thorough visit.





Photo 01. This invasive Canada Thistle was found growing at Pit 7. Hecla is working on eradicating it by pulling and incinerating the plants.



Photo 02. This invasive Tansy was found again at Pit 7. It was first found at the site last year.



Photo 03. This erosion was observed at the edge of the A road at mile 1.4. There is no immediate impact to any water body.



Photo 04. *Crepis tectorum* was found last year at the tailings facility and site E. It is wide spread and should be eradicated.



Photo 05. Small trees and rocks were removed from the spur road on the north side of Zinc Creek this summer.



Photo 06. Accumulated sediment under the Zinc Creek bridge has been removed, and the silt fences have been repaired.



Photo 07. Stormwater Runoff was found on the south side of Zinc Creek.



Photo 08. Stormwater Runoff was flowing into Zinc Creek.



Photo 09. Sediment on top of the splash guard of the Zinc Creek bridge suggests that some sediment is being splashed into the creek.



Photo 10. The silt fence surrounding site E is in poor condition in many places, and should be repaired before any material is removed from the site. The straw bales should be removed.



Photo 11. Waste Rock from the 1350 area is now stored on a liner at Site 23.



Photo 12. The bridge and road at the 920 portal were overlain with 4 to 6 inches of concrete this summer, and the wall and splash barrier have been completed.



Photo 13. About x tons of waste rock were removed from the 1350 portal this summer. The area has recently been seeded.



Photo 14. The chemicals in this sea van lack secondary containment.



Photo 15. The chemicals in this sea van lack secondary containment.



Photo 16. This uncontained chemical spill was found outside one of the sea vans.

U.S. Forest Service Officer: /s/ David Schmerge