



**FACT SHEET AND TECHNICAL EVALUATION  
PROPOSED MODIFICATION TO PERMIT NO. ID-0000175  
Hecla Mining Company, Lucky Friday Mine and Mill  
P.O. Box 31, Mullan, Idaho 83846**

**NPDES Permit Number:** ID-000017-5  
**Public Notice Start Date:** May 30, 2008  
**Public Notice Expiration Date:** June 30, 2008  
**Technical Contact:** Kai Shum (206) 553-0060  
1-800-424-4372 (within EPA Region 10)  
Shum.Kai@epa.gov

**The U.S. Environmental Protection Agency (EPA) Proposes to Modify a National Pollutant Discharge Elimination System (NPDES) Permit To:**

Hecla Mining Company  
Lucky Friday Mine and Mill  
P.O. Box 31, Mullan, Idaho 83846

**EPA Proposes NPDES Permit Modification.**

Region 10 of the EPA (Region 10) proposes to modify one of the requirements contained in the NPDES permit for the Lucky Friday Mine site. The permit sets conditions on the discharge of pollutants from the Lucky Friday mine and mill facilities to the South Fork Coeur d'Alene River (SFCdA or South Fork). In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged.

Specifically, the Region is proposing to modify the permit requirement for the upper range of pH from the current maximum pH of 9.0 to 10.0 standard units. The remainder of the permit conditions are unchanged, and not subject to modification. Therefore, the Region is requesting comments only on the proposed modified conditions for pH.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a description of the pH limit permit condition that the Region is proposing to modify
- a map and description of the area where the Lucky Friday Mine is located
- technical information supporting the draft modified pH limit

**The State of Idaho Proposes Certification.**

The Idaho Department of Environmental Quality (IDEQ) proposes to certify this NPDES permit modification under section 401 of the Clean Water Act. IDEQ submitted a draft 401 certification prior to this public notice that is incorporated into this permit. IDEQ provides the public with the

opportunity to review and comment on draft 401 certification conditions. Persons wishing to receive a copy of the State's draft 401 certification or to comment on the certification should contact IDEQ at the following address: Thomas Herron at Idaho Department of Environmental Quality, Coeur d'Alene Regional Office, 2110 Ironwood Parkway, Coeur d'Alene, Idaho 83814 or phone number (208)769-1422, or Thomas.herron@deq.idaho.gov

**Public Comment on the Draft Modified Permit.**

Persons wishing to comment on or request a public hearing for the draft permit modification may do so in writing by the close of the public comment period. A request for a public hearing must state the nature of the issues to be raised. All comments and requests for public hearings must be in writing and include the commenter's name, address, and telephone number and either be submitted by mail to Director, Office of Water and Watersheds, at U.S. EPA, Region 10, 1200 - 6th Avenue, Suite 900, OWW-130, Seattle, WA 98101; submitted by facsimile to (206) 553-0165; or submitted via e-mail to shum.kai@epa.gov.

After the comment period ends, and all comments have been considered, EPA's regional Director for the Office of Water and Watersheds will make a final decision regarding permit reissuance. If no comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If comments are received, the Region will address the comments and issue the permit. The permit will become effective 33 days after the issuance date, unless an appeal is filed with the Environmental Appeals Board within 30 days.

**Documents are Available for Review.**

The draft NPDES permit modification and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (see addresses below).

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue, Suite 900, OWW-130  
Seattle, Washington 98101  
(206) 553-0979 or 1-800-424-4372 (within Alaska, Idaho, Oregon, and  
Washington; ask to be connected to Kai Shum)

The draft NPDES permit modification and fact sheet are also available at:

EPA Coeur d'Alene Field Office  
1910 NW Boulevard  
Coeur d'Alene, Idaho 83814  
(208) 664-4588

Idaho Department of Environmental Quality  
Coeur d'Alene Regional Office  
2110 Ironwood Parkway  
Coeur d'Alene, Idaho 83814  
(208) 769-1422

Wallace Public Library  
415 River Street  
Wallace, Idaho 83873-2260  
(208) 752-4571

The draft NPDES permit modification and fact sheet can also be found by visiting the Region 10 website at [www.epa.gov/r10earth/water/npdes.htm](http://www.epa.gov/r10earth/water/npdes.htm).

For technical questions regarding the permit or fact sheet, contact Kai Shum at the phone numbers or email address at the top of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 (ask to be connected to Kai Shum at the above phone number). Additional services can be made available to persons with disabilities by contacting Kai Shum.

## **I. APPLICANT**

Hecla Mining Company

NPDES Permit No.: ID-000017-5

Mailing Address: P.O. Box 31, Mullan, Idaho 83846

Facility Location: approximately 1 mile east of Mullan (see Appendix A for a map)

Facility Contact: Mike Dexter, General Manager  
(208) 744-1751

## **II. FACILITY ACTIVITIES**

The Lucky Friday Mine is a silver, lead, and zinc mine and mill located in Shoshone County, Idaho, just north of the South Fork Coeur d'Alene River (SFCdA River or South Fork) and approximately 1 mile east of Mullan. The mine and mill are owned and operated by the Hecla Mining Company (Hecla). Ore has been mined from the Lucky Friday deposit since 1942. The Lucky Friday mill has been in operation since 1959, with periods of temporary closure.

The ore is mined via underground methods and conveyed to the mill. Mill operations include crushing, grinding, and flotation to produce a silver-lead concentrate and a zinc concentrate. The concentrates are transported off-site for refining. Tailings (the residuals from the mill) are separated via hydrocyclones to produce a coarse and fine product. The coarse tailings are used to backfill the mine. The fine tailings are piped in a slurry from the mill to tailings pond no. 3.

Wastewater is discharged from the facility to the SFCdA River via the following outfalls (see Appendix A for a map of the outfall locations):

Outfall 001: Outfall 001 is the overflow from tailings pond no. 1. The pond is located adjacent to the SFCdA River near Mullan. Tailings pond no. 1 receives groundwater, cooling water, sanitary wastewater, and mine water from the Lucky Friday Mine. Outfall 001 discharges continuously.

Outfall 002: Outfall 002 is the overflow from tailings pond no. 2 and is located approximately 0.8 miles east of outfall 001. Tailings are not currently disposed in tailings pond no. 2 and there is usually no discharge from outfall 002. Hecla has authorization to discharge from outfall 002 for emergency use when the flow from outfalls 001 or 003 need to be diverted. The current permit includes effluent limits that allow for either outfall 001 or outfall 003 to be discharged through outfall 002.

Outfall 003: Outfall 003 is the overflow from tailings pond no. 3. Tailings pond no. 3 is located adjacent to the SFCdA River and discharges to the river approximately 1.3 miles east of outfall 002. Pond no. 3 receives tailings from the Lucky Friday mill and storm water. Outfall 003 discharges continuously.

The parameters of concern in all the discharges include pH, total suspended solids (TSS), and metals.

The Region last issued an NPDES permit for the Lucky Friday Mine site (hereinafter referred to as the “2003 permit”) on August 12, 2003. Some of the permit conditions were modified in a permit modification that was issued on December 28, 2005.

### **III. PROPOSED MODIFIED PERMIT CONDITION**

#### **A. Purpose of Modification**

The Region is proposing to modify the NPDES permit for the Lucky Friday Mine site. The proposed modification is in response to a March 3, 2008 letter from Hecla requesting modification of the maximum pH limit. Hecla requested a higher upper pH limit, which, under certain conditions, is allowable under the pH adjustment provision of the Ore Mining and Dressing Effluent Limitation Guidelines (40 CFR 440 Subpart L). Hecla submitted information supporting this request in the letter dated March 3, 2008. The NPDES regulations at 40 CFR 122.62(a)(1) and (2) allow for modification based on alterations or additions to a permitted facility and new information.

#### **B. Proposed Change of Upper Limit for pH**

The current Lucky Friday Mine NPDES permit requires that the pH of the effluent discharge must not exceed 9.0 standard units (s.u.). This limit applies to all outfalls. The pH limit was based on EPA’s technology-based Effluent Limitation Guidelines (ELGs) for the Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ore Subcategory (40 CFR 440, Subpart J). The ELG for pH is found in 40 CFR 440.102 and specifies an upper pH limit of 9.0 s.u. The NPDES regulations at 40 CFR 122.44(a) require that permits include technology-based conditions based on ELGs. The NPDES regulations also require that permits include effluent limits based on water quality standards, where there is reasonable potential to cause or contribute to an exceedence of the water quality standard (40 CFR 122.44(d)). The water quality criteria for pH applicable to the SFCdA River specifies a maximum pH limit of 9.5 s.u. (cold water biota - aquatic life criteria from IDAPA 16.01.02250.01). Because the ELG of 9.0 was more stringent than the water quality criteria of 9.5, a pH limit of 9.0 was included in Part I.A.3. of the 2003 permit.

The General Provisions found in Subpart L of the ELGs allow the permit issuer to include a pH limit higher than the ELG maximum limit under certain conditions. Specifically, the “pH adjustment provision” of the ELGs states (40 CFR 440.131(d)(1)): “Where the application of neutralization and sedimentation technology to comply with relevant metals limitations results in an inability to comply with the pH range of 6 to 9, the permit issuer may allow the pH level in the final effluent to slightly exceed 9.0 so that the copper, lead, zinc, mercury, and cadmium limitations will be achieved.”

Hecla has requested EPA to modify the Lucky Friday permit to allow for a higher pH limit according to the 40 CFR 440.131(d)(1) provision. Specifically, Hecla requested an upper pH limit of 10.0 s.u.

Hecla included information in their modification request documenting that neutralization by hydroxide precipitation, followed by settling and filtration will be implemented in order to meet the cadmium, lead, and zinc limits that go into effect on September 13, 2008 (these limits are in Tables 1 through 4 of the 2003 permit). Hecla is currently operating under a compliance schedule that allows higher interim limits for these parameters (see Table 5 of the 2003 permit). While the facility is generally in compliance with the interim limits, additional treatment and filtration is needed for the facility to comply with the final limits. Hecla currently adds calcium hydroxide (lime) at several locations in the mill and wastewater streams that report to the tailings impoundments. Sedimentation (settling) occurs in the tailings impoundments. In order to meet the more stringent cadmium, lead, and zinc limits, Hecla plans to increase lime usage, which will result in a pH increase of approximately 9.5 s.u. to 10.0 s.u. to effectively precipitate these metals. Hecla plans to install filtration equipment at each of the outfalls to remove the metal-containing suspended solids prior to discharge.

Hecla has provided a commitment to install additional neutralization and filtration technology and has demonstrated that neutralization and sedimentation (as well as filtration) at a pH level of up to 10.0 s.u. is needed to comply with the metals limits. EPA has determined that an increase in the upper pH limit from 9.0 s.u. to 10.0 s.u., per 40 CFR 440.131(d)(1) is warranted.

As discussed above, the water quality criteria specifies a maximum pH limit of 9.5 s.u. IDEQ has included in its draft certification for this modification preliminary authorization of a mixing zone for pH that would allow effluent discharge at a pH of 10.0 s.u.

*Based on the Idaho Department of Environmental Quality's draft certification dated May 16, 2008, "A discharge into the South Fork Coeur d'Alene River of pH = 10 s.u. at 7Q10 design flows was modeled by DEQ to have an allowable mixing zone of no greater than six meters in length in the downstream direction. Based on DEQ modeling, Idaho Water Quality Standards are met at the edge of this mixing zone and ultimately the pH of the river was increased by no more than 0.3 s.u. Based on this analysis, DEQ authorizes a mixing zone for pH pursuant to the Idaho Water Quality Standards, IDAPA 58.01.02.060. With a mixing zone, there is a reasonable assurance a discharge of pH of 10 s.u. will comply with the applicable provisions of the CWA and Idaho Water Quality standards."*

Based on the above determination, Part I.A.3. of the permit is proposed to be revised as follows:

Part I.A.3 of the current permit reads:

*"3. The pH must not be less than 6.5 standard units (s.u.) nor greater than 9.0 s.u."*

The proposed change in Part I.A.3 reads:

*"3. The pH must not be less than 6.5 standard units (s.u.) nor greater than 10.0 s.u."*

### **C. Modifications Subject to Public Comment**

The EPA regulations at 40 CFR 122.62 state that, in a permit modification proceeding, only those conditions to be modified are reopened for public comment. The only change proposed is to the upper pH limit. This change is highlighted in the attached draft permit modification. The Region is soliciting comments that are only related to this proposed change modification.

## **IV. OTHER LEGAL REQUIREMENTS**

### **A. State Certification**

Section 401 of the CWA requires an NPDES permit applicant to provide EPA with certification from the State that the permit has limitation and monitoring requirements necessary to assure that the applicant will comply with State water quality standards. Section 401 and EPA's regulations allow for the State to impose more stringent conditions in the permit, if the 401 certification cites the CWA or State law references upon which that condition is based. In addition, the regulations require a 401 certification to include statements of the extent to which each condition of the permit can be made less stringent without violating the requirements of State law. In a letter dated May 16, 2008, the State provided EPA a draft certification to the draft permit modification. Specifically the state proposed authorization of a mixing zone for the upper pH limit

After the public comment period, a preliminary final permit will be sent to the State for final certification. If the State authorizes different requirements in its final certification, the Region will incorporate those requirements into the final permit.

### **B. Endangered Species Act**

Section 7 of the Endangered Species Act requires federal agencies to consult with the NOAA National Marine Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) regarding potential effects a federal action may have on threatened and endangered species. Following are the federally-listed species that may be in the area of the discharge.

#### Endangered Species:

Gray Wolf (*Canis lupus*) - experimental

#### Threatened Species:

Bull Trout (*Salvelinus confluentus*)

Bald Eagle (*Haliaeetus leucocephalus*)

Ute' ladies-tresses (*Spiranthes diluvialis*)

The Fact Sheet supporting the 2005 permit modification provided a discussion of the Region's determination that issuance of the NPDES permit would not have an impact on these species.

The only change to the permit is an increase in the upper pH limit from 9.0 to 10.0 s.u. EPA has determined that this change will not impact these species.

### **C. Essential Fish Habitat**

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1855(b)) requires federal agencies to consult with NOAA Fisheries when any activity proposed to be, permitted, funded, or undertaken by a federal agency may have an adverse effect on designated Essential Fish Habitat (EFH). To date, federal management plans have been developed by NOAA Fisheries for groundfish, coastal pelagics, and Pacific coast salmon. The Region reviewed these management plans and found that none of these plans specified EFH in the discharge area (the South Fork Coeur d'Alene River).

# APPENDIX A

## LOCATION MAP – Hecla Mining’s Lucky Friday Mine and Mill site

