



# Frequently Asked Questions about Pend Oreille Mine

from Ecology's Water Quality Program, Eastern Regional Office

## Pend Oreille Mine's Water Quality Waste-Discharge Permit

### Overview

The new "National Pollutant Discharge Elimination System" (NPDES) permit, once it is completed, will likely change the way the mine is operated to further reduce pollution that enters the Pend Oreille River.

Ore-bearing rock will be extracted from the underground mine and transported to the surface via an existing conveyor system. Lead and zinc would be recovered at an existing on-site mill. The metal-bearing concentrates will be shipped to Teck-Cominco's smelter in Trail, British Columbia.

Water for the mine is pumped out a pipe from below ground and discharges to the Pend Oreille River. Teck-Cominco's past water-quality NPDES permit expired and the company applied for a new one in 1999. The expired permit has been extended to allow the mine to operate until the new permit is issued.

The proposed NPDES permit was released for 30 days of public review on Nov. 5, 2003. Based on public comments, Ecology has decided to extend the public-review period and conduct a public hearing to gather more remarks.

Ecology has determined that the project is subject to the requirements of the federal Metals Mining and Milling Operations Act, which required that an Environmental Impact Statement (EIS) be prepared. The EIS identified all the potential environmental effects of the mining activity.

The act also required that the company post an (approximately) \$8 million dollar bond to ensure money will be available should cleanup ever be necessary. It also required a pollution-prevention plan, which has been completed, and strict new requirements on how mine tailings are handled.

Computer modeling has been performed to determine how the mine's waste-water discharge mixes with (or is diluted by) the receiving water. State water-quality standards must be met at the boundaries of this "mixing" or "dilution zone." In order to do this computer modeling, information was gathered about the flow, velocity and depth of the Pend Oreille River near the mine. (See Q&A below.)

Teck Cominco is conducting a study of new ways to reduce the metals in the mine's effluent. This study is above and beyond requirements, but results may justify re-opening the permit to add new technology. The mine is required to use AKART (all known and reasonable technology) and this study could potentially add new technology to what is "known and reasonable." The study is scheduled to be completed one year after the permit is issued.

A cleanup plan, or total maximum daily load (TMDL), will be conducted on the Pend Oreille River to address the problem of river temperatures that are occasionally too high to support a healthy fish population.

## Questions and Answers

### **Q: Why is The Department of Ecology holding a public hearing on February 3, 2004?**

**A:** Ecology is holding a new public hearing on the mine's new water-quality permit because members of the public requested a formal public hearing during the public review period held on the last draft permit.

We want this permit to be carefully considered and welcome any new information the public has for us.

**NOTE: The public comment period ended February 3, 2004.**

### **Q: Why was the mine allowed to begin operating when it does not have a final water-quality permit?**

The mine has been de-watering for years, meaning water from the underground operation has had to be piped up and discharged. This required an ongoing permit that expired in 1981. The discharge consists of ground water that accumulates in the underground mine workings, and is treated prior to discharge to the river. The water does contain levels of constituents associated with the mineralized underground workings.

That expired permit has been extended while a new permit is being considered. The proposed new permit contains more stringent operating requirements to further protect water quality.

### **Q: How does the proposed permit make the effluent less harmful to the river?**

**A:** The proposed permit has more stringent limits on effluent; requires additional effluent and water monitoring and reporting, and requires Teck Cominco to prepare various operational and contingency plans to ensure the facility complies with the most current water-quality laws and regulations.

### **Q: How can you let the company pollute the Pend Oreille River with heavy metals and trace amounts of radiation?**

**A:** The proposed permit DOES NOT allow Teck Cominco to pollute either the river or ground water. The discharge consists of ground water that accumulates in the underground mine workings, and is treated prior to discharge to the river.

The water does contain constituents associated with the mineralized underground workings. This discharge will meet all applicable water-quality standards.

### **Q: What kind of environmental safeguards are in place for the operation?**

**A:** The permit requires that the company immediately report any violations to Ecology. Further, corrective actions are required when any unauthorized discharge or spill occurs. Ecology also must inspect this facility four times a year to assess whether the company has complied with all applicable environmental requirements.

### **Q: Why does Ecology allow a "mixing zone" instead of requiring facilities to meet water-quality standards at the end of the pipe?**

**A:** Mixing zones are very limited areas surrounding wastewater discharges, and are based on the recognition that effluent concentrations and effects diminish rapidly in the receiving water.

The state's water quality standards allow the use of mixing zones for discharges that would otherwise exceed the water-quality criteria for aquatic life. Mixing zones are established in a way that limits how long organisms are exposed to the effluent plume in order to minimize the risk from each discharge.

The water-quality standards for chronic protection must be met at the boundary of this zone and beyond.

Washington state rules allow mixing zones for dischargers provided they apply "all known available and reasonable methods of prevention, control, and treatment" (AKART).

The standards specify maximum dimensions of a mixing zone based on a combination of a water body's flow and width. The proposed permit authorizes a mixing zone much smaller than the maximum size allowable.

**Q: How does the mine affect temperature in the river, and how is this addressed in the current permit and the new, draft permit?**

**A:** The Pend Oreille River fails to meet applicable water quality criteria for temperature during the warmer summer months [the criteria is 20°C (68°F), or incremental increase above natural background]. The company's discharge is a few degrees above the applicable criteria (a daily maximum of 72°F).

Ecology is planning to conduct a clean up study/plan (total daily maximum load or TMDL) for temperature on the Pend Oreille River. This process will account for all point and non-point contributors (end-of-pipe and more diffuse sources, respectively) to high temperatures in the river system, and sets limits (waste load allocations) for the individual sources in order to protect water quality standards.

Ecology is proposing a 10-year compliance schedule for Tech Cominco to meet temperature requirements in order to allow time to complete the temperature TMDL. In the interim, the proposed permit requires the company to examine alternatives to reduce effluent temperature during the warmer summer months. When a waste load allocation is assigned to the company, the limit will be incorporated into the permit.

**Q: Are bull trout an issue?**

**A:** Yes. The U.S. Fish and Wildlife Service is responsible to protect endangered species, such as bull trout in the Pend Oreille River. Ecology sent a copy of the proposed permit to the U.S. Fish and Wildlife Service and will consider comments from this agency in developing the final permit terms and conditions, including those comments that concern protecting bull trout.

**Q: Is \$8 million really sufficient to ensure the site is cleaned up, no matter what?**

**A:** Ecology must review the adequacy of this bond amount every two years and can adjust this reclamation assurance bond amount AT ANY TIME if necessary to clean up any spill or unauthorized discharge.

**Q: What other permits has the mine needed in order to operate?**

**A: Metals Mining & Milling Operations Act**

- Performance Bonding (Ecology)
- Waste Minimization Plan (Pollution Prevention Plan) approval (Ecology)—The operation of the mine must be in accordance with dangerous-waste regulations. The Metals Mining & Milling Operations Act requires a pollution prevention plan before the water quality program can issue a discharge permit. In this case, the mine is using an Environmental Management System in lieu of a pollution prevention plan.

What is included in an Environmental Management System is already established by international protocol in order to protect the environment.

- Waste Rock Management Plan (Ecology and Department of Natural Resources approval)—A plan to manage the broken rock below ground which is “below ore” grade and at some mines creates the potential for acid mine drainage (leaching) when water flows through. This is not a problem at this mine.

#### **WA Department of Ecology:**

- Notice of Construction Approval (Ecology air permit)—for exhaust from underground diesel equipment and some dust from rock crushing.
- Engineering Approval for construction of tailings disposal facility
- State Waste Discharge Permit (temporary permit granted by rule once performance bonding is in place and waste minimization plan has been approved)—for the tailings facility to prevent leaching to ground water. Eventually this will be folded into one discharge permit for water at the mine.
- National Pollutant Discharge Elimination System (NPDES) permit renewal (pending) and approval of operation and maintenance manual (approved)
- Dam Safety Permit—Concerns the integrity of the impoundment structure for tailings.
- Dangerous Waste Conditional Exemption (includes approved tailing facility cover design)
- NPDES Ecology General Permit for construction storm water
- NPDES Ecology General Permit for industrial storm water
- NPDES Sampling & Analysis Plan (post-closure water-quality monitoring plan)

#### **WA Department of Health:**

- Sewage disposal permit
- Radioactive Materials License - for concentrate flow measuring device

#### **WA Department of Labor & Industries:**

- Explosive License

#### **WA Department of Natural Resources**

- Burning Permit
- Forest Practices Permit
- Reclamation Plan approval (DNR and Ecology)

#### **Pend Oreille County:**

- Building Permit

#### **U.S. Treasury Department - Explosives Permit**

#### **U.S. Tobacco Alcohol and Firearms Permit** – *(for alcohol used in bio-treatment pilot project)*

Information on this topic can be accessed through Ecology’s Web site. The address is:

[http://www.ecy.wa.gov/programs/wq/permits/eastern\\_permits.html](http://www.ecy.wa.gov/programs/wq/permits/eastern_permits.html)

*If you need this information in an alternate format, please contact the Water Quality Program at 360-407-6404. If you are a person with a speech or hearing impairment, call 711, or 800-833-6388 for TTY.*