UPRIVER DAM PCB SEDIMENTS SITE

(Spokane River PCB Sediment Contamination Project)

Are You Interested in the Proposed Cleanup of Sediments Behind Upriver Dam?

Reports Available for Review

The public may now review two reports that outline investigations and alternatives for cleanup of polychlorinated biphenyls (PCBs) in sediments behind Upriver Dam. The draft Remedial Investigation and Feasibility Study reports are being released before the formal comment period begins, so the public may get a head start on reviewing two of the five documents related to cleanup at this site. The remaining three documents: the draft Cleanup Action Plan, draft Consent Decree and draft State Environmental Policy Act (SEPA) determination are being developed and will be available soon. The formal review and comment period will begin in March and comments will be accepted on all five documents at that time. Documents do not become final until after the public comment period and any appropriate adjustments have been made. A public meeting will be held in March to explain the documents and answer questions. Ecology is accelerating this work to assure certainty and timeliness of cleanup, which is complicated by Kaiser Aluminum & Chemical Corporation's bankruptcy.

In January 2003, Ecology, Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation entered into a legal agreement to evaluate the extent of PCB contamination in sediments behind Upriver Dam. Liberty Lake Sewer District and Inland Empire Paper Company have also been identified as responsible parties but chose not to participate in the agreement. The site covers the area from approximately river mile 80 by the dam, to river mile 85 east of the Centennial Trail Footbridge (See Fig. 1).

Polychlorinated Biphenyls (PCBs)

PCBs are a group of manufactured chemicals historically used as insulating fluids or coolants and lubricants in transformers, capacitors or other electrical equipment. They have also been used in hydraulic oils, fluorescent lights, inks, carbonless paper and other uses. Manufacture of PCBs stopped in the U.S. in 1977 because of evidence they build up in the environment and may have harmful health effects. Humans may be exposed to PCBs from the Spokane River by eating fish caught from certain locations of the river. (For PCB details, see box on page 2)

Draft Remedial Investigation Report (RI)

The draft RI report concludes there are two primary areas where PCB contamination in sediments is a concern. The first area is called Deposit 1. This area begins directly behind the dam in deep water on the north side of the river and covers 3.7 acres in an easterly, up-stream direction. The second area is called Deposit 2. It covers a smaller 0.2 acre shallow-water area on the north bank of the river near what is referred to as "Donkey Island" (See Fig. 1).

Draft Feasibility Study Report (FS)

The draft FS report outlines four proposed cleanup options for the site, including five sub-alternatives under Alternative 3. Cleanup options fall into the categories of capping or dredging. Capping in some form is involved in all except one alternative. All options assume there will be water quality controls implemented upstream to deal with the sources of PCBs under existing wastewater discharge permits and future total maximum daily load (TMDL) limits. Each option also includes some type of performance monitoring.

Alternative 1: *Monitored Natural Recovery*. This option relies on the natural deposition of sediments over existing PCBs to isolate them and reduce exposure and risks associated with contamination.
Alternative 2: *Enhanced Natural Recovery*. This option places a 6-inch layer of clean sand on top of the PCB-contaminated sediments.
Alternative 3: *Sediment Capping*. The 5 sub-alternatives in this option place sand, gravel, and/or coal and clay products in varying thicknesses over the PCB-contaminated sediments mainly at Deposit 1.

These sub-alternatives are intended to stabilize PCBs in sediments, prevent possible erosion, create a clean environment for bottom-dwelling organisms, and eliminate or reduce transport of dissolved PCBs into the overlying water column or underlying groundwater. Long-term monitoring is also included.

3A: This option places 1 foot of clean sand over Deposit 1 with an additional 3 inches of gravel on top of the sand to act as an armor and assure stability over time. This option is also applied to Deposit 2 without the gravel armor.

3B: This option places sand over the contaminated sediments, followed by a 6-inch layer of AquaBlok$_{TM}$, or similar clay-based product, which is covered with a protective gravel armor on the surface. AquaBlok$_{TM}$ is a material that includes polymers, clay minerals and other additives that are blended and surround a core such as gravel. They form a tight clay-based seal when placed over the contaminated sediments.

3C: This option is the same as 3B, except the thickness of the clay capping AquaBlok$_{TM}$ material is increased to approx. 18 inches.

3D: This option places a 6-inch cap of granulated coal over Deposit 1. The coal is covered with 6 inches of sand, then another layer of protective gravel armor is placed over the sand. The granulated coal is an "active" capping material that strongly adsorbs and effectively captures dissolved PCBs that may move upward.

3E: This option is similar to option 3D, but places an additional 12 inches of granulated coal over Deposit 1 (approximately 18 inches total) to increase adsorption capacity for any dissolved PCBs.

Alternative 4: *Dredging, Off-site Disposal and Residuals Capping*. This option removes the top 3.5 feet of sediments in Deposit 1 and the top 2 feet in Deposit 2. Under this alternative nearly 95 percent of the PCB-contaminated sediments are removed and disposed off site at a licensed disposal facility. Two feet of sand would then be placed over the remaining PCBs that could not effectively be removed by dredging. A mechanical clamshell is used to remove sediments and debris from Deposit 1 and materials are dewatered. Water from the dewatering process may require treatment to remove PCB particles before being discharged.

Draft Cleanup Action Plan

Ecology is evaluating the proposed alternatives and will present proposed cleanup actions in the draft Cleanup Action Plan available for review and comment in March.

Draft Consent Decree

A draft Consent Decree will be completed and available for review and comment in March. The draft Consent Decree is a proposed legal agreement between Ecology, Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation that ensures details of the draft Cleanup Action Plan are implemented in accordance with all applicable laws and regulations.

Draft State Environmental Policy Act (SEPA) and Determination of Non-Significance (DNS)

The State Environmental Policy Act, known as SEPA, requires government agencies to consider potential environmental impacts of a project before beginning the cleanup. After review of a completed environmental checklist, and other site specific information, Ecology will determine if the cleanup of PCBs may have a probable adverse impact on the environment. If adverse impacts are not identified, a Determination of Non-Significance may be issued. The draft SEPA determination will also be available for review and comment in March.

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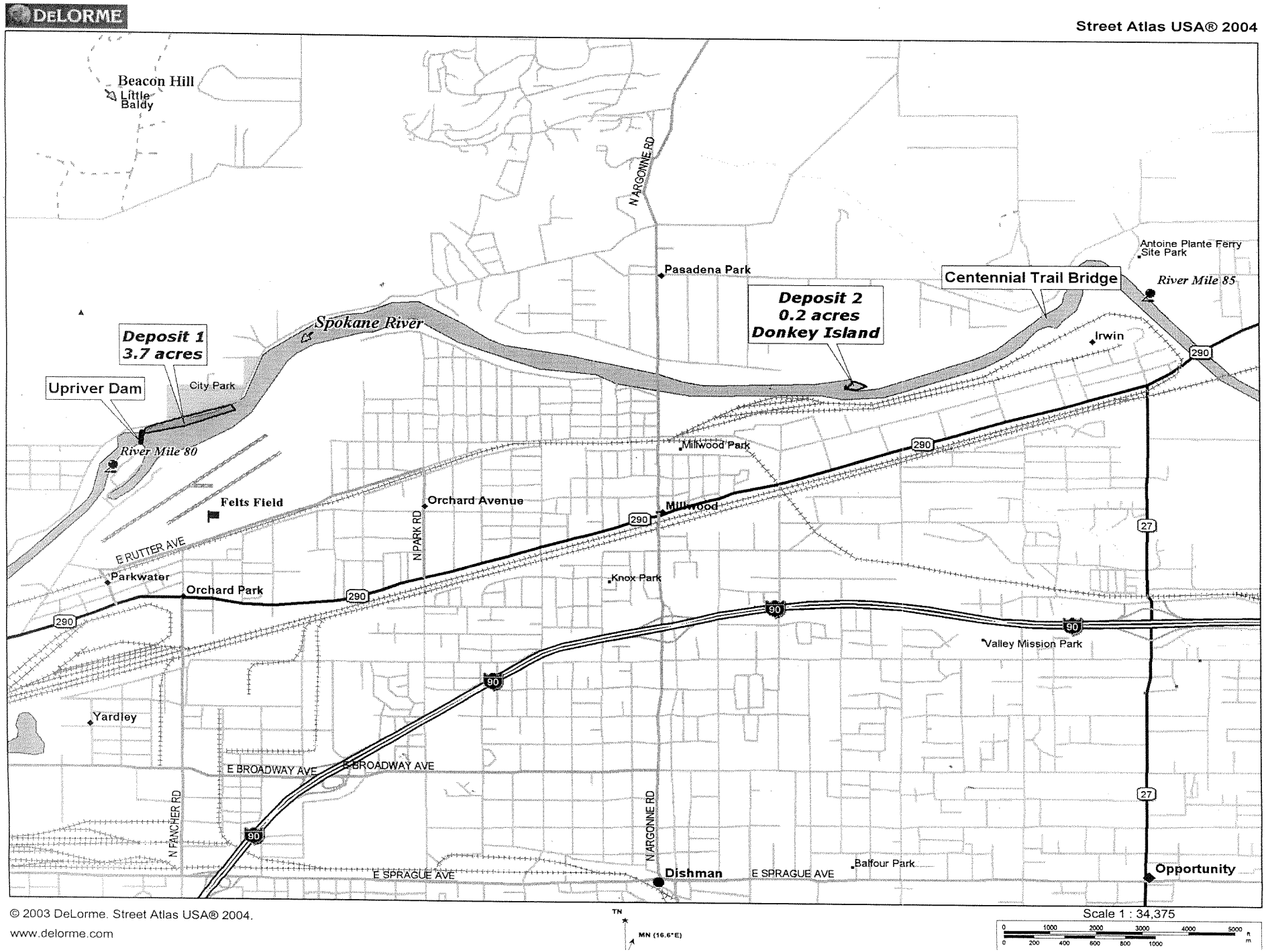
PCB details: See Agency for Toxic Substances and Disease Registry http://www.atsdr.cdc.gov/tfacts17.html

Spokane River Fish Meal Advisory:
http://www.ecy.wa.gov/programs/tcp/sites/spo_riv/Spokane_River_hp.htm


DeLORME
Street Atlas USA® 2004
Beacon Hill
Little Baldy
N ARGONNE RD
Pasadena Park
Antoine Plante Ferry Site Park
River Mile 85
Centennial Trail Bridge
Deposit 2
0.2 acres
Donkey Island
Spokane River
Deposit 1
3.7 acres
Upriver Dam
City Park
Irwin
290
River Mile 80
Millwood Park
Felts Field
Orchard Avenue
N PARK RD
Millwood
E RUTTER AVE
Parkwater
Orchard Park
Knox Park
27
90
Valley Mission Park
Yardley
E BROADWAY AVE
N PANCHER RD
E SPRAGUE AVE
Dishman
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TN
MN (16.6°E)
Scale 1 : 34,375

FIGURE 1