STATE OF WASHINGTON
SPOKANE COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. AVISTA DEVELOPMENT, INC., Defendant.	NO. 03-2-00422-1 CONSENT DECREE

Table of Contents

I. INTRODUCTION

A. In entering into this Consent Decree (Decree), the mutual objective of the Washington State Department of Ecology (the Department) and of Avista Development, Inc. (the Respondent) is to provide for remedial action at a location where there has been a release of hazardous substances. This Decree requires the Respondent to undertake the remedial actions specified in the Cleanup Action Plan attached as Exhibit A to this Decree. The Department has determined that the actions described in the Cleanup Action Plan are necessary to protect public health and the environment.

B. The Respondent and the Department have also entered into a consent decree with several Debtors (defined below) in the U.S. Bankruptcy Court matter styled, *In re Kaiser Aluminum Corporation, et al.*, Bankr. D. Del, Case No. 02-10429 (JFK) (the Bankruptcy Consent Decree). Under the Bankruptcy Consent Decree, the Debtors agree to contribute to the funding of the remedial action called for by this Decree, in exchange for certain releases, covenants not to sue, and other consideration from Avista and the Department as more fully described in the Bankruptcy Consent Decree. The Parties to this Decree acknowledge that the United States Environmental Protection Agency (USEPA) under the authority of CERCLA

(i.e. Superfund) is investigating hazardous substance contamination in the Coeur d' Alene basin and the upper Spokane River, focusing on metals contamination associated with historic mining operations in Idaho. USEPA has designated the Spokane River as part of Operable Unit 3 in its Record of Decision (ROD). Remedy selection and evaluation in Washington addressed by the USEPA in the ROD encompasses the river from the Idaho state line downstream to Upriver Dam, including the entire Upriver Dam PCB Sediment Site. Metals-related contamination associated with historic mining operations has been determined to be broadly distributed within Operable Unit 3, including areas at the Site. The USEPA ROD (September 2002) proposed capping or dredging as remedy alternatives to reduce metals risks in sediments immediately behind Upriver Dam. The USEPA also concluded that further investigation and coordination with the State of Washington is appropriate before selection of the final remedy for metals contamination.

C. USEPA was provided with a draft of the Cleanup Action Plan and of this Decree, and given an opportunity to comment on both documents. The Parties agree that the remedial actions required by this Decree are consistent with the remedy alternatives that USEPA has proposed for metals-related contamination in sediments behind Upriver Dam.

D. A complaint in this action was filed on January 17, 2003. An earlier Consent Decree was entered by this Court on February 6, 2003, and required Avista and Kaiser Aluminum and Chemical Corporation to perform certain studies and investigations, which have now been completed. An answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the Parties wish to resolve the issues raised by the Department's complaint. In addition, the Parties agree that settlement of these matters without litigation is reasonable and in the public interest and that entry of this Decree is the most appropriate means of resolving these matters.

E. In signing this Decree, Avista agrees to its entry and agrees to be bound by its terms.

F. By entering into this Decree, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the complaint other than as provided in the Bankruptcy Consent Decree. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons (except as provided in the Bankruptcy Consent Decree) for sums expended under this Decree.

G. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action nor an admission of any facts; provided, however, that the Respondent shall not challenge the authority of the Attorney General and the Department to enforce this Decree.

H. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown: Now, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED:

II. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the Parties pursuant to Chapter 70.105D RCW, the Model Toxics Control Act (MTCA). Authority is conferred upon the Washington State Attorney General by RCW 70.105D.040(4)(a) to agree to a settlement with any potentially liable person if, after public notice and any required hearing, Ecology finds the proposed settlement would lead to a more expeditious cleanup of hazardous substances. RCW 70.105D.040(4)(b) requires that such a settlement be entered as a Consent Decree issued by a court of competent jurisdiction.

B. The Department has determined that a release or threatened release of hazardous substances has occurred at the Site that is the subject of this Decree.

C. The Department has given notice to the Respondent, as set forth in RCW 70.105D.020(15), of the Department's determination that the Respondent is a potentially liable person for the Site and that there has been a release or threatened release of hazardous substances at the Site.

D. The actions to be taken pursuant to this Decree are necessary to protect public health and the environment.

E. This Decree has been subject to public notice and comment.

F. Ecology finds that this Decree will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70.105D.030(2)(e) and Chapter 173-340 WAC.

G. The Respondent has agreed to undertake the actions specified in this Decree and consents to the entry of this Decree under MTCA.

III. PARTIES BOUND

This Decree shall apply to and be binding upon the Parties, their successors and assigns. The undersigned representative of each Party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such party to comply with the Decree. The Respondent agrees to undertake all actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter the responsibility of the Respondent under this Decree. Respondent shall provide a copy of this Decree to all agents, contractors, and subcontractors retained to perform work required by this Decree, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Decree.

IV. DEFINITIONS

Unless otherwise specified, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms used in this Decree.

A. Site: The Site consists of the areal extent of PCB-contaminated sediments in that area of the Spokane River located upstream of and hydraulically influenced by the Upriver Dam between approximate river mile (RM) 80 (near the Upriver dam) and RM 85 (upstream of the dam near the Centennial Trail footbridge). The Site is more particularly described in

Exhibit B to this Decree, which is a detailed site diagram. The Site constitutes a "facility" under RCW 70.105D.020(4).

B. Parties: Refers to the Washington State Department of Ecology (the Department) and the Respondent, collectively.

C. Respondent: Refers to Avista Development, Inc.

D. Consent Decree or Decree: Refers to this Consent Decree and each of the exhibits to the Decree. All exhibits are integral and enforceable parts of this Consent Decree. The terms "Consent Decree" or "Decree" shall include all Exhibits to the Consent Decree.

E. Day or Days: Refers to a calendar day(s) unless otherwise specified. In computing any period of time under this Decree, if the last day falls on a Saturday, Sunday, or a state or federal holiday, the period shall run until the end of the next day which is not a Saturday, Sunday, or a state or federal holiday. Any time period scheduled to begin on the occurrence of an act or event shall begin on the day after the act or event.

F. Section: Refers to a portion of this Consent Decree identified by a Roman numeral.

G. Debtors: Refers to the several debtors in the bankruptcy case styled *In re Kaiser Aluminum Corporation, et al.*, Bankr. D. Del., Case No, 02-10429 (JKF), including Kaiser Aluminum & Chemical Corporation (Kaiser), owner and operator of the Kaiser Trentwood Works in Spokane, Washington. The Debtors are not Parties to this Consent Decree.

V. STATEMENT OF FACTS

The Department makes the following findings of fact without any express or implied admissions by the Respondent.

1. Avista Development, Inc. (Avista) (a subsidiary of Avista Corporation, formerly Washington Water Power Company) is successor to Pentzer Development Corporation

(Pentzer). Pentzer is the past owner and operator of the Spokane Industrial Park, which is located on the Spokane River at approximately RM 87.

2. Avista's predecessor Pentzer discharged industrial effluent wastewater to the Spokane River in Washington prior to 1994, under the provisions of the State of Washington Water Pollution Control Law and the federal Water Pollution Control Act, or predecessor laws.

3. Polychlorinated biphenyls, or PCBs, have been found in fish, sediment, and water of the upper Spokane River, upstream of RM 80, which approximately marks the location of Upriver Dam. PCBs have been documented in effluent waters and solids associated with Spokane Industrial Park.

4. In certified correspondences dated June 1, 2001, the Department notified Avista, Kaiser, and Liberty Lake Sewer District of a preliminary finding of potential liability for PCBs in sediments behind Upriver Dam and requested comment on those findings. In subsequent certified correspondence, the Department notified Inland Empire Paper Company of a preliminary finding of potential liability for PCBs in sediments behind Upriver Dam and requested comment on those findings. Liberty Lake Sewer District and Inland Empire Paper Company have declined to participate in remedial actions at the Site and are not signatories to this Decree.

5. Respondent has designated a project coordinator to implement the Work to be Performed. By execution of this Decree, the Respondent agrees to be bound by the terms thereof and not to contest the same.

VI. WORK TO BE PERFORMED

This Decree contains a program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site.

1. The Respondent shall furnish all personnel, materials and services necessary for, or incidental to, the planning, initiation, completion, and reporting upon the Cleanup

Action Plan, attached as Exhibit A. The work to be performed is the completion of the remedial action described in the attached Cleanup Action Plan.

2. The Cleanup Action Plan and each element thereof are designed and shall be implemented and completed in accordance with the Model Toxics Control Act (Chapter 70.105D RCW) and its implementing regulation (Chapter 173-340 WAC) as amended, and all applicable federal, state, and local laws and regulations.

3. As provided in the agreed upon schedule, attached as Exhibit C, the Respondent shall commence work and thereafter complete all tasks in Exhibit A in the time frames and framework indicated unless the Department grants an extension in accordance with Section XV.

4. The Respondent agrees not to perform any remedial actions at the Site that are outside the scope of this Decree unless the Parties agree to amend the Cleanup Action Plan to cover these actions. All work conducted by the Respondent under this Decree shall be done in accordance with Chapter 173-340 WAC unless otherwise provided herein.

VII. DESIGNATED PROJECT COORDINATORS

The project coordinator for the Department is:

David Sternberg
Department of Ecology
Eastern Regional Office
4601 N. Monroe
Spokane, WA 99205-1295

The project coordinator for the Respondent is:

Douglas K. Pottratz
Avista Corporation
PO Box 3727
Spokane, WA 99220-3727

Each project coordinator shall be responsible for overseeing the implementation of this Decree. The Department project coordinator will be the Department's designated representative at the Site. To the maximum extent possible, communications between the

Department and the Respondent and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree, shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the remedial work required by this Decree. The project coordinators may agree to minor modifications to the work to be performed without formal amendments to this Decree. Minor modifications will be documented in writing by the Department. Substantial changes shall require amendment of this Decree.

Any Party may change its respective project coordinator. Written notification shall be given to the other Party at least ten (10) calendar days prior to the change.

VIII. PERFORMANCE

All work performed pursuant to this Decree shall be under the direction and supervision, as necessary, of a licensed professional engineer or licensed hydrogeologist, or equivalent, with experience and expertise in hazardous waste site investigation and cleanup. The Respondent shall notify the Department in writing of the identity of such engineer(s) or hydrogeologist(s), or others and of any contractors and subcontractors to be used in carrying out the terms of this Decree, in advance of their involvement at the Site. Any construction work performed pursuant to this Decree shall be under the supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered in the State of Washington, except as provided in RCW 18.43.130.

IX. ACCESS

The Department or any Department-authorized representative shall have the authority to enter and freely move about portions of the Site over which the Respondent has control and all associated field investigation operations at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed

pursuant to this Decree; reviewing the progress in carrying out the terms of this Decree; conducting such tests or collecting samples as the Department may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to the Department by the Respondent. By signing this Decree, the Respondent agrees that this Decree constitutes reasonable notice of access, and agree to allow access to site-related field operations at all reasonable times for purposes of overseeing work performed under this Decree. Without limitation on the Department's rights under this Section IX, the Department agrees to endeavor to notify Respondent at least 2 days in advance of intended access.

The Department and the Respondent acknowledge that Avista does not own any of the properties that compose the Site. The Respondent will use reasonable efforts to obtain access to the Site. If necessary, the Department will exercise its authority under Chapter 70.105D RCW to ensure access to the Site or to facilitate remedial action at the Site.

X. SAMPLING, DATA REPORTING, AND AVAILABILITY

With respect to the implementation of this Decree, the Respondent shall make the results of all sampling, laboratory reports, and/or test results generated by it, or on its behalf available to the Department and shall submit these results in accordance with Section XI of this Decree.

In accordance with WAC 173-340-840(5), sampling data shall be submitted according to the Department's sampling data submittal requirements as set forth in Exhibit D to this Decree. In addition, in accordance with the Department's Sediment Quality Information System software (SEDQUAL) needs, sediment or bioassay sampling data shall be submitted to Ecology in a electronic format compatible for entry into the SEDQUAL database using the system's *data entry templates*.

If requested by the Department, the Respondent shall allow split or duplicate samples to be taken by the Department and/or its authorized representatives of any samples collected by

Respondent pursuant to the implementation of this Decree. Respondent shall notify the Department seven (7) working days in advance of any planned field sample collection or work activity at the Site. The Department shall, upon request, allow split or duplicate samples to be taken by Respondent or its authorized representatives of any samples collected by the Department pursuant to the implementation of this Decree provided it does not interfere with the Department's sampling. Without limitation on the Department's rights under Section IX, the Department shall endeavor to notify Respondent at least seven (7) days prior to any scheduled sample collection activity. This will not apply to emergencies or time-critical actions.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-350 for the specific analyses to be conducted, unless otherwise approved by Ecology.

XI. PROGRESS REPORTS

Respondent shall submit to the Department written progress reports as provided in the Cleanup Action Plan, Exhibit A to this Decree.

XII. RETENTION OF RECORDS

Respondent shall preserve, during the pendency of this Decree and for ten (10) years from the date this Decree is no longer in effect as provided in Section XXVI, all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert in contracts with project contractors and subcontractors a similar record retention requirement. Upon request of the Department, Respondent shall make all non-archived records available to the Department and allow access for review. All archived records shall be made available to the Department within a reasonable period of time.

XIII. RESOLUTION OF DISPUTES

In the event a dispute arises as to an approval, disapproval, proposed modification or other decision or action by the Department or the Department's project coordinator, the Parties shall utilize the dispute resolution procedure set forth below.

A. Upon receipt of the Department's or Department project coordinator's decision, or upon notice of the Department's or Department project coordinator's action, the Respondent has fourteen (14) days within which to notify the Department's project coordinator of its objection to the decision or action.

(1) The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, the Department's project coordinator shall issue a written decision.

(2) Respondent may then request regional management review of the decision. This request shall be submitted in writing to the Eastern Region Toxics Cleanup Program Section Manager within seven (7) days of receipt of the Department's project coordinator's decision.

(3) Ecology's Regional Section Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute within thirty (30) days of the Respondent's request for review.

(4) If the Respondent finds Ecology's Regional Section Manager's decision unacceptable, the Respondent may request final management review of the decision. This request shall be submitted in writing to the Toxics Cleanup Program Manager within seven (7) days of receipt of the Regional Manager's decision.

(5) The Department's Program Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute within thirty (30) days of the Respondent's request for review. The Program Manager's decision shall be the Department's final decision on the disputed matter.

B. If the Department's final written decision is unacceptable to the Respondent, it has the right to submit the dispute to this Court (the Court) for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event the Respondent presents an issue to the Court for review, the Court shall review any investigative or remedial action or decision of the Department on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review.

C. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either Party utilizes the dispute resolution process in bad faith or for purposes of delay, the other Party may seek sanctions.

D. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless the Department agrees in writing to a schedule extension or the Court so orders.

XIV. AMENDMENT OF CONSENT DECREE

Except for minor modifications agreed to pursuant to Section VII and extensions that do not constitute a substantial change granted in accordance with Section XV, this Decree may only be amended by a written stipulation among the parties to this Decree that is entered by the Court or by order of the Court. All amendments shall become effective upon entry by the Court. Agreement to amend shall not be unreasonably withheld by any party to the Decree.

Any party may propose an amendment to the Decree. A party that receives a request for amendment shall indicate its approval or disapproval in a timely manner after the request for amendment is received. If the amendment to the Decree is substantial, the Department will provide public notice and opportunity for comment. Reasons for the disapproval shall be stated in writing. If any party does not agree to any proposed amendment, the disagreement

may be addressed through the dispute resolution procedures described in Section XIII of this Decree.

XV. EXTENSION OF SCHEDULE

A. An extension of schedule shall be considered when a request for an extension is submitted in a timely fashion, generally at least 30 days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify the reason(s) the extension is needed, the deadline that is sought to be extended, the length of the extension sought, and any related deadline or schedule that would be affected if the extension were granted.

B. An extension shall be granted for such period of time as the Department determines is reasonable under the circumstances. A requested extension shall not be effective until approved by the Department or the Court. The Department shall act upon any written request for extension in a timely fashion. It shall not be necessary to formally amend this Decree pursuant to Section XIV when a schedule extension is granted unless the extension constitutes a substantial change.

C. The burden shall be on the Respondent to demonstrate to the satisfaction of the Department that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause includes, but is not limited to, the following:

(1) Circumstances beyond the reasonable control and despite the due diligence of the Respondent including delays caused by unrelated third parties or the Department, such as (but not limited to) delays by the Department in reviewing, approving, or modifying documents submitted by the Respondent; or

(2) Acts of God or war, including fire, flood, blizzard, extreme temperatures, storm, earthquake, terrorist attack, or other unavoidable casualty; or

(3) Endangerment as described in Section XVI; or

(4) Other circumstances agreed to by the Department to be exceptional or extraordinary.

However, neither increased costs of performance of the terms of the Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of the Respondent.

D. An extension shall be granted only for such period as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

(1) Delays in the issuance of a necessary permit which was applied for in a timely manner; or

(2) Other circumstances deemed exceptional or extraordinary by the Department; or

(3) Endangerment as described in Section XVI.

The Department shall give the Respondent written notification in a timely fashion of any extensions granted pursuant to this Decree.

XVI. ENDANGERMENT

In the event the Department determines that any activities being performed at the Site pursuant to this Decree are creating or have the potential to create a danger to human health or the environment, the Department may order the Respondent to cease such activities for such period of time as needed to abate the danger or may petition the Court for an order as appropriate. During any stoppage of work under this section, the obligations of the Respondent with respect to the work under this Decree which is ordered to be stopped shall be suspended and the time periods for performance of that work, as well as the time period for any other work dependent upon the work which is stopped, shall be extended, pursuant to Section XV of this Decree, for such period of time as the Department determines is reasonable under the circumstances.

In the event the Respondent determines that any activities being performed at the Site pursuant to this Decree are creating or have the potential to create a danger to human health or the environment, the Respondent may cease such activities for such period of time necessary for the Department to evaluate the situation and determine whether the Respondent should proceed with implementation of the Decree or whether the work stoppage should be continued until the danger is abated. The Respondent shall notify the Department's project coordinator as soon as possible, but no later than twenty-four (24) hours after such stoppage of work, and thereafter provide the Department with documentation of the basis for the work stoppage. If the Department disagrees with the Respondent's determination, it may order the Respondent to resume implementation of this Decree. If the Department concurs with the work stoppage, the Respondent's obligations shall be suspended and the time period for performance of that work, as well as the time period for any other work dependent upon the work which was stopped, shall be extended, pursuant to Section XV of this Decree, for such period of time as the Department determines is reasonable under the circumstances.

XVII. COVENANT NOT TO SUE

A. Covenant Not to Sue: In consideration of Respondent's compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against Respondent regarding the release or threatened release of hazardous substances covered by this Decree.

This Decree covers only the Site and those hazardous substances that Ecology knows are located at the Site as of the date of entry of this Decree. This Decree does not cover any other hazardous substance or area. Ecology retains all of its authority relative to any substance or area not covered by this Decree.

This Covenant Not to Sue shall have no applicability whatsoever to:

(1) Criminal liability;

(2) Liability for damages to natural resources; or

(3) Any Ecology action, including cost recovery, against potentially liable persons not a party to this Decree.

If factors not known to Ecology at the time of entry of the settlement agreement are discovered and present a previously unknown threat to human health or the environment, the Court shall amend this covenant not to sue.

B. Reopeners: Ecology specifically reserves the right to institute legal or administrative action against Respondent to require it to perform additional remedial actions at the Site and to pursue appropriate cost recovery, pursuant to RCW 70.105D.050 under the following circumstances:

(1) Upon Respondent's failure to meet the requirements of this Decree, including, but not limited to, failure of the remedial action to meet the cleanup standards identified in the Cleanup Action Plan (Exhibit A);

(2) Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment;

(3) Upon the discovery of factors unknown at the time of entry of this Decree, including the nature or quantity of hazardous substances at the Site, that present a previously unknown threat to human health or the environment and Ecology's determination, in light of these factors, that further remedial action is necessary at the Site to protect human health or the environment; or

(4) Upon Ecology's determination based on factors unknown at the time of entry of this Decree that additional remedial actions are necessary to achieve cleanup standards within the reasonable restoration time frame set forth in the Cleanup Action Plan.

C. Except in the case of an emergency, prior to instituting legal or administrative action against the Respondent pursuant to paragraph B. above, Ecology shall provide the Respondent with fifteen (15) calendar days notice of such action.

XVIII. CONTRIBUTION PROTECTION

With regard to claims for contribution against the Respondent, the Parties agree that the Respondent is entitled to protection against claims for contribution for matters addressed in this Decree as provided by RCW 70.105D.040(4)(d). For the purposes of this section, "matters addressed" include all remedial actions undertaken at the Site pursuant to this Decree. "Matters addressed" also include all remedial actions previously undertaken at the Site to characterize the contamination or to enable the selection of a cleanup action, and all oversight costs paid to Ecology.

XIX. FINANCIAL ASSURANCES

Pursuant to WAC 173-340-440(11), Respondent shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with the operation and maintenance of the remedial action at the Site, including institutional controls, compliance monitoring, and corrective measures.

Within sixty (60) days of the effective date of this Decree, Respondent shall submit to Ecology for review and approval an estimate of the costs that it will incur in carrying out the terms of this Decree, including operation and maintenance and compliance monitoring. Within sixty (60) days after Ecology approves the aforementioned cost estimate, the Respondent shall provide proof of financial assurances sufficient to cover all such costs in a form acceptable to Ecology.

Respondent shall adjust the financial assurance coverage and provide Ecology's project manager with documentation of the updated financial assurance for:

1. Inflation, annually, within thirty (30) days of the anniversary date of the entry of this Decree; or if applicable, the modified anniversary date established in accordance with the following subparagraph, or if applicable, ninety (90) days after the close of the Respondent's fiscal year if the financial test or corporate guarantee is used, and

2. Changes in cost estimates, within thirty (30) days of issuance of Ecology's approval of a modification or revision to the CAP that results in increases to the cost or expected duration of remedial actions. Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. The issuance of Ecology's approval of a revised or modified CAP will revise the anniversary date established in subparagraph (1) above to become the date of issuance of such revised or modified CAP.

XX. INDEMNIFICATION

The Respondent agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property arising from or on account of acts or omissions of the Respondent, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, the Respondent shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action arising out of either the State of Washington's or any of its agencies' status as potentially liable persons with respect to contamination at the Site or the intentional, reckless, or negligent acts or omissions of the State of Washington, or the employees or agents of the State, in implementing the activities pursuant to this Decree.

XXI. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by the Respondent pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in paragraph B. of this section.

B. Pursuant to RCW 70.105D.090(l), the substantive requirements of chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals for the remedial action under this Decree that are

known to be applicable at the time of entry of the Decree are binding and enforceable requirements of the Decree.

The Respondent has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(l) would otherwise be required for the remedial action under this Decree. In the event either the Respondent or the Department determines that additional permits or approvals addressed in RCW 70.105D.090(l) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of this determination. The Department shall determine whether the Department or the Respondent shall be responsible to contact the appropriate state and/or local agencies. If the Department so requires, the Respondent shall promptly consult with the appropriate state and/or local agencies and provide the Department with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. The Department shall make the final determination on the additional substantive requirements that must be met by the Respondent and on how the Respondent must meet those requirements. The Department shall inform the Respondent in writing of these requirements. Once established by the Department, the additional requirements shall be enforceable requirements of this Decree. The Respondent shall not begin or continue the remedial action potentially subject to the additional requirements until the Department makes its final determination.

The Department shall ensure that notice and opportunity for comment is provided to the public and appropriate agencies prior to establishing the substantive requirements under this section.

C. Pursuant to RCW 70.105D.090(2), in the event the Department determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(l) would result in the loss of approval from a federal agency which is necessary for the State to administer any federal law, the exemption shall not apply and the

Respondent shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(l), including any requirements to obtain permits.

XXII. REMEDIAL AND INVESTIGATIVE COSTS

The Respondent agrees to pay the remedial action costs incurred by the Department for the Site pursuant to this Decree that are consistent with WAC 173-340-550, provided that such costs shall not exceed a total of $75,000.

The Respondent agrees to pay the required amount within ninety (90) days of receiving from the Department an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

XXIII. IMPLEMENTATION OF REMEDIAL ACTION

If the Department determines that the Respondent has failed without good cause to implement the remedial action required by this Decree, the Department may, after written notice to the Respondent and a reasonable opportunity for Respondent to cure the failure, perform any or all portions of the remedial action required by this Decree that remain incomplete. If the Department performs all or portions of the remedial action because of the Respondent's failure to comply with its obligations under this Decree, the Respondent shall reimburse the Department for the costs of doing such work in accordance with Section XX, provided that the Respondent is not obligated under this section to reimburse the Department for costs incurred for work inconsistent with or beyond the scope of this Decree.

XXIV. PERIODIC REVIEW

As remedial action, including monitoring, continues at the Site, the Parties agree to review the progress of remedial action at the Site, and to review the data accumulated as a

result of monitoring the Site as often as is necessary and appropriate under the circumstances. At least every five years after the initiation of cleanup action at the Site, the Parties shall meet to discuss the status of the Site and the need, if any, for further remedial action at the Site. The Department reserves the right to require further remedial action at the Site under appropriate circumstances. With respect to the Respondent, however, the Department may require further remedial action at the Site only as provided under Section XVII (Covenant Not to Sue). This provision shall remain in effect for the duration of the Decree. A report, which addresses the review criteria in WAC 173-340-420, shall be submitted by Respondent ninety (90) days before every 5-year anniversary of the completion of construction.

XXV. PUBLIC PARTICIPATION

The Department shall maintain the responsibility for public participation at the Site. However, the Respondent shall cooperate with the Department, and shall:

A. If agreed to by the Department, prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, the Department will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of the Department's presentations and meetings;

B. Notify the Department's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments. Likewise, the Department shall notify the Respondent prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. The Department shall also endeavor to provide Respondent with an opportunity to review and comment on all press releases, fact sheets, and other materials that will be distributed to the public and local governments prior to issuance. For all press releases, fact sheets, meetings, and other outreach efforts by the Respondent that do not receive prior Department approval, the Respondent shall clearly indicate to its audience that the press

release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by the Department;

C. Participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter;

D. In cooperation with the Department, arrange and/or continue information repositories at the following locations:

(1) The Spokane Public Library, Downtown Branch;

(2) The Department's Eastern Regional Office at North 4601 Monroe Street in Spokane.

At a minimum, copies of all public notices, fact sheets, and press releases; all quality assured monitoring data; remedial actions plans and reports, supplemental remedial planning documents, and all other similar documents relating to performance of the remedial action required by this Decree shall be promptly placed in these repositories.

XXVI. DURATION OF DECREE

This Decree shall remain in effect until the Respondent has received written notification from the Department that the requirements of this Decree have been satisfactorily completed. The Department shall issue such notification within 60 days after the requirements of this Decree have been satisfactorily completed. Thereafter, the parties within thirty (30) days shall jointly request that the Court vacate this Consent Decree. After the Decree is vacated, Section XVII (Covenant Not to Sue) and XVIII (Contribution Protection) shall survive.

XXVII. CLAIMS AGAINST THE STATE

The Respondent hereby agrees that it will not seek to recover any costs accrued in implementing the remedial action required by this Decree from the State of Washington or any of its agencies, except to the extent they are potentially liable persons with respect to

contamination at the Site; and further, that the Respondent will make no claim against the State Toxics Control Account or any Local Toxics Control Account for any costs incurred in implementing this Decree. Except as provided above, however, the Respondent expressly reserves its right to seek to recover any costs incurred in implementing this Decree from any other potentially liable person; however, nothing in this Decree shall affect any claims between Avista and the Debtors, which shall be governed solely by the Bankruptcy Consent Decree.

XXVIII. EFFECTIVE DATE

This Decree is effective upon the later of (1) the date it is entered by the Court, (2) the Effective Date of the Bankruptcy Consent Decree, or (3) the date that Debtors make the payment to the Respondent required by the Bankruptcy Consent Decree.

XXIX. PUBLIC NOTICE AND WITHDRAWAL OF CONSENT

This Decree has been the subject of public notice and comment under RCW 70.105D.040(4)(a). As a result of this process, the Department has found that this Decree will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under Chapter 173-340 WAC.

If the Court withholds or withdraws its consent to this Decree, if the Bankruptcy Court declines to enter the Bankruptcy Consent Decree, or if Debtors fail to make the payment to the Respondent required by the Bankruptcy Consent Decree, this Decree shall be null and void at the option of any Party and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no Party shall be bound by the requirements of this Decree.

DEPARTMENT OF ECOLOGY

JIM PENDOWSKI
Program Manager
Washington Department of Ecology
Toxics Cleanup Program

Date: _____

ROB McKENNA
Attorney General

STEVEN J. THIELE, WSBA #20275
Assistant Attorney General
Attorneys for Plaintiff
State of Washington, Department of Ecology

Date: _____

AVISTA DEVELOPMENT, INC.

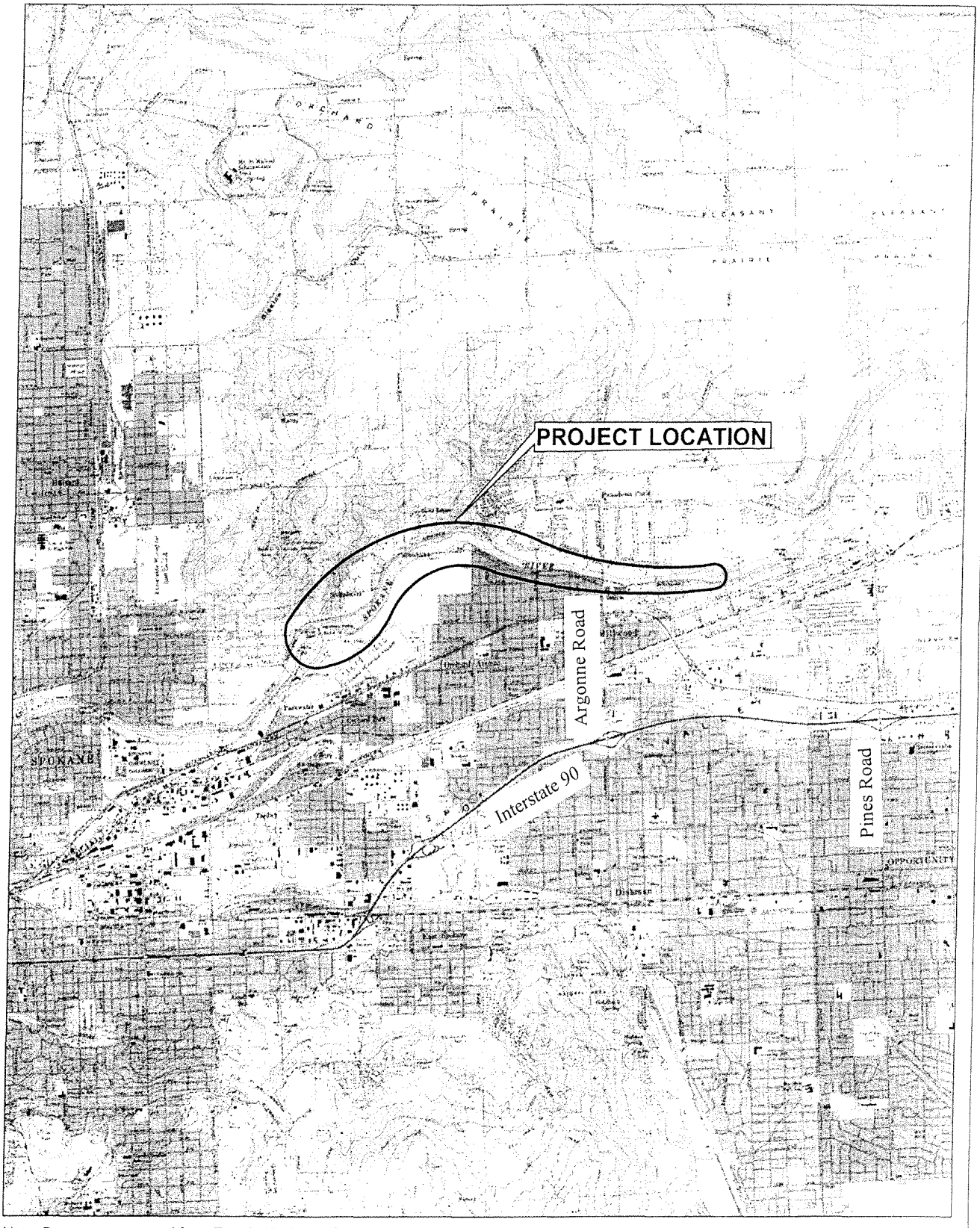
By: _____
Title: _____

Date: _____

DATED this _____ day of _____, 2005.

JUDGE
Spokane County Superior Court

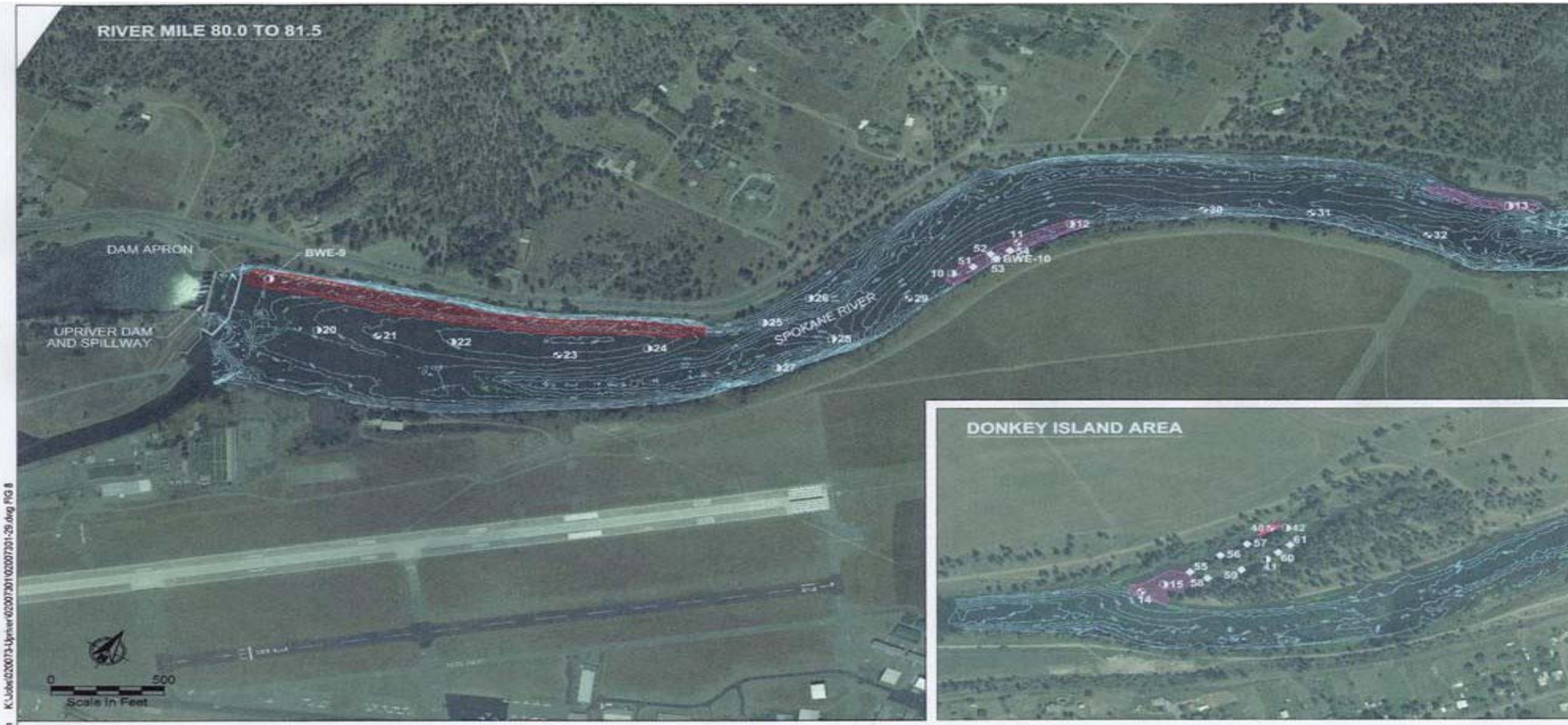
Exhibit B Site Diagrams



Note: Base map prepared from Terrain Navigator Pro
USGS 7.5 minute quadrangle maps of Green Acres and
Spokane NE, Washington.

0 1
Scale in Miles

Nov 23, 2004 9:01am cdavidson K:\Jobs\020073-Upriver\02007301\02007301-41.dwg FIG 1



Notes:

1) Aerial photo provided by Avista dated June 2002.
2) Bathymetry based on survey data provided by Blue Water Engineering dated May 20-22, 2003.
3) Horizontal Datum: State Plane NAD83 Washington, North
4) Vertical Datum: NAVD88

Sample Locations

- Core Station Location
- Surface Sediment Station Location

- Deposit 1
- Deposit 2
- Potential Fine Grained Deposit

Dec 03, 2004 9:02am olavidson K:\Jobs\020073-Upriver\020073001\020073001-29.dwg FIG 8

Exhibit C – Schedule for Completing Work

Table. Schedule of implementation of major tasks associated with the Implementation of the Spokane River Upriver Dam PCB Site Cleanup as defined in the Cleanup Action Plan.

SCHEDULE OF IMPLEMENTATION		
Task*	**Deposit of Concern**	**Completion Date**
Submittal of Remedial Design (RD) Work Plan (as defined in CAP)	Deposits 1 and 2	Within 60 days of receipt of Ecology's execution of decree implementing the CAP
Finalize RD Work Plan	Deposits 1 and 2	Within 15 days of receipt of Ecology comments on Draft RD Work Plan
Collection and Reporting of Pre-Remedial Design Data (as set forth in the RD Work Plan)	Deposits 1 and 2	Within 90 days of Ecology's written approval of the RD Work Plan
Coal Performance and Feasibility Technical Memorandum to Ecology	Deposits 1 and 2	Within 135 days of Ecology's written approval of the RD Work Plan
Presentation(s) and Information Sharing to Ecology on Design Progress and Plans, and Permitting Leading to 90% design (approximately at the equivalent of the 30 or 50 percent design stage)	Deposits 1 and 2	Within 40 days of receipt of Ecology's written comments on the Coal Tech Memo
Draft 90% RD to Ecology, including Construction Plans and Specifications	Deposits 1 and 2	Within 75 days of receipt of Ecology's written comments on the Coal Tech Memo
Final 100% RD to Ecology	Deposits 1 and 2	Within 30 days of receipt of Ecology's written comments on 90% RD
Construction of Cleanup Action through Construction Complete	Deposits 1 and 2	Begin construction within 90 days of submittal of the Final 100% RD, receipt of Corps authorization, or at the appropriate construction window for 2006, whichever is later
Submit Final Cleanup Action Report, including Results of Confirmational Sampling, As Built Reports, and potential Institutional Control documents	Deposits 1 and 2	Within 90 days of the completion of construction associated with cleanup actions.

* All necessary federal permits and substantive local and state permits will be initiated and pursued at the earliest and timeliest dates feasible with the goal of construction Complete in 2006.

Exhibit D - Sampling Data Submittal Requirements

Procedures for obtaining the sampling data submittal requirements are available on Ecology's website. Use the following steps:

Go to http://www.ecy.wa.gov/eim/

Then click on "Data Submittal Information" under Submit data to EIM

Go to the bottom of the page and click on http://www.ecy.wa.gov/programs/tcp/smu/sedqualfirst.htm

See Attached copies of procedures

Environmental Information Management

Get environmental data about Washington State

Access over 1.7 million records on Washington's air, water, soil, aquatic animals, and plants.

Search Database >

Submit data to EIM

Data Submittal Information >

Contact Data Coordinator >

Welcome to EIM

Welcome to the Environmental Information Management System (EIM), a searchable database developed and maintained by the Washington State Department of Ecology.

EIM contains environmental data from the Department of Ecology and affiliates such as local government and grantees.

Search EIM database >

Download ready-made EIM datasets >

What's new? >

What's in EIM? >

Data sources outside EIM >

EIM help and data definitions >

Join the EIM e-mail list >

Department of Ecology

EIM Submit Data

Environmental Information Management System

New! Submit Data Online

Submit data online using the EIM Import Module. Follow the instructions below:

Set Up Account, Get Your Key, and Log In

- Click on "Set Up Account" in the blue box on the right. Enter information about your organization. Once you have submitted your organization account, you will receive your organization key — usually within a day from EIM staff.
- After you receive your key, click on "Complete Your Profile." Enter your user name, your password, your key, and your secret answer to a question. You will then enter the EIM Import Module.
- To log in again, click on "Log In." Enter your user name and password.
- Different users within an organization may share the same organization key.
- If you forget your organization key, contact the EIM Data Coordinator.

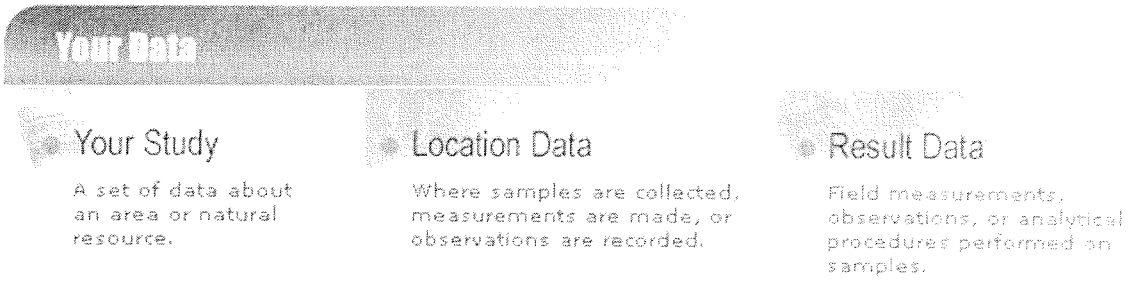
Existing Users
Log In

New?
Set Up Account

Got Organization Key?
Complete Your Profile

Required Browsers

- To use the EIM Import Module, your browser must be Microsoft© Internet Explorer 6.0.2800 or above. Other browser clients or versions may not support the Import Module. To download the latest version of Internet Explorer, go to: http://www.microsoft.com/windows/ie/default.mspx



Getting Started with the EIM Import Module

- Submit your data in three parts: Study information, Location data, and Result data.
- Begin by completing information about your Study.
- Enter Location and Result data in one of two ways:
  1. Submit data using EIM spreadsheets.
  2. Submit data from your database.

To Submit Data Using EIM Spreadsheets

- Download the EIM Spreadsheets, Submittal Guidelines, and Help zip file. To access the file, you will need a zip file extracting tool such as WinZip (unless your operating system is Windows XP).
- Fill out spreadsheets for Location and Result data.

- Log in to the EIM Import Module.
- Enter Your Study Information.
- Submit your Location and Result data (includes checking).

To Submit Data From Your Database

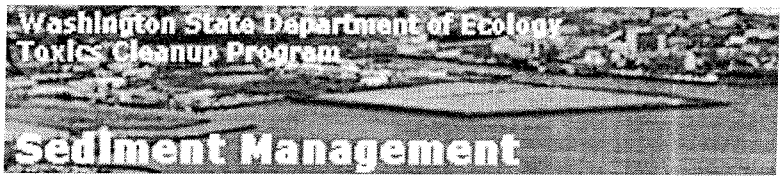
- Download the EIM Submittal Guidelines and Data Dictionary zip file. To access the file, you will need a zip file extracting tool such as WinZip (unless your operating system is Windows XP).
- Log in to the EIM Import Module.
- Enter your Study information.
- Define your file formats for Location and Result data.
- Submit your Location and Result data (includes checking).

To Submit SEDQUAL Sediment Data

- Toxics Cleanup Program-related sediment data is to be submitted in SEDQUAL format.
- To access the SEDQUAL Web site go to: http://www.ecy.wa.gov/programs/tcp/smu/sedqualfirst.htm

Need help? Contact the Data Coordinator

- Email: **eim_data_coordinator@ecy.wa.gov**
- Call: (360) 407-6258 (Olympia, Washington).



Ecology Home | Search | Contact Us

TCP Home

Sediments Home

Sediment Standards

Chemical Criteria

SEDQUAL

MUDS

Publications

Sediment Contacts

SEDQUAL - Sediment Quality Information System - SEDQUAL

Current release version is: **5.0 - October 2004**

The fifth public release of SEDQUAL, is **now being distributed on CD-ROM by request** by sending the appropriate contact information to: mpay461@ecy.wa.gov. SEDQUAL is used by Federal, State and local natural resource regulatory organizations, academic institutions and other environmental stakeholders to assess sediment toxicity in sub-tidal marine and freshwater environments.

A defacto regional standard in the Pacific Northwest, SEDQUAL is used by virtually all natural resource regulatory authorities. The system consists of a **database** component, a **user interface** component and **integrated GIS** components.

- The **SQL 2000 server database**, SEDQUAL.MDF, contains almost 15,000 sample collection **stations**, over 23,000 sediment **sample** records, nearly one million **chemical analysis** records, 121,000 **benthic infauna analysis** records and nearly 52,000 **laborotory bioassay analysis** records. The data file also contains tissue data including bioaccumulation and histopathology.

- The **user interface**, SEDQUAL.EXE, provides powerful query and hit interpretation tools which make **data retrievals** and sediment quality **analysis functions** faster and easier than ever before.

- The **GIS base data** distributed with the system includes **sediment station locations**, water bodies, land areas and other useful features for California, Idaho, Oregon, Washington and Alaska.

- A "built in" **GIS interface** provides basic, read-only spatial analysis features at no additional cost. Use the **Map Form** to select station points located within a drainage basin or other geographic study area of concern. Users can quickly and easily **perform database query and analysis functions** using the selected stations. Similarly, a user can quickly **view and map station locations** associated with any query or analysis result produced by the system.

- A second **GIS interface** is provided for users who have purchased and installed E.S.R.I.'s ArcView version 3.x GIS software. The ArcView extension file, SEDQUAL5.AVX, supports full featured spatial analysis, read and write access to GIS data and complete integration with other high performance GIS analysis tools available for use with the ArcView application.

SEDQUAL is designed to operate with Microsoft's **Windows NT**, service pack 6 or above, **Windows 2000**, or **Windows XP** operating system. SEDQUAL can not be installed on computers using older operating systems such as Windows 95 or Windows 98. The entire Sediment Quality Information System requires **one gigabyte minimum** available disk space to install and operate. SEDQUAL is implemented as a stand alone client server application, in other words, no network connection required!

If you are upgrading from a previous release, be sure to uninstall all previously installed components and remove all previously installed files prior to installing a newer version. Refer to the **!READ_ME.txt** file distributed with the setup files for more more detailed information on the uninstall process.

Please be sure to forward your contact information if you wish to **receive periodic email information** including: key analysis features, technical tips, workshop opportunities and more. We welcome your **comments and feedback** regarding useful features, errors, omissions and/or your suggestions for useful new features.

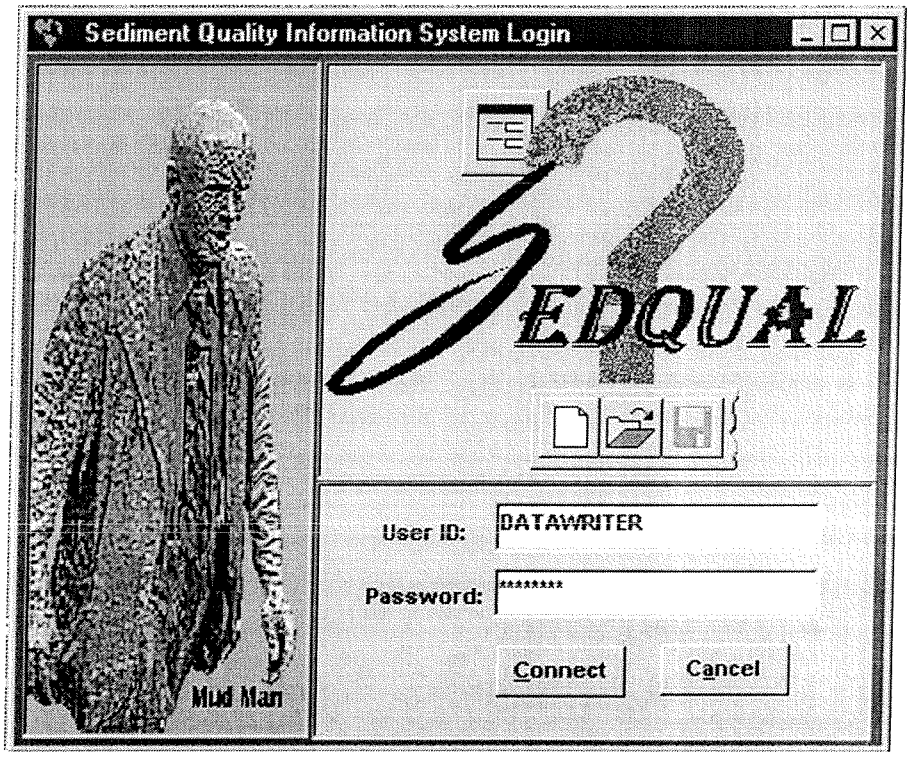
Try these links for more detailed information on SEDQUAL:

- Data Entry Templates - How to submit data for batch entry into SEDQUAL R5.

Questions or comments about the Sediment Quality Information System?

Contact: Martin Payne at: (360) 407-6920 or mpay461@ecy.wa.gov
Gina Casteel at: (360) 407-7394 or gcas461@ecy.wa.gov

Screen shot of SEDQUAL Logon Form:



Last revised: Wednesday October 27, 2004

Exhibit E – Public Participation Plan

UPRIVER DAM SEDIMENTS SITE

DRAFT PUBLIC PARTICIPATION PLAN FOR THE

Draft Cleanup Action Plan and Consent Decree

PREPARED BY:

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Para asistencia Espanol
Antonio Valero (509) 454-7840
aval461@ecy.wa.gov

Если вам нужно помощь по русски, звоните
Igor Vern 360-407-0281
Iver461@ecy.wa.gov
or
Tom Perkow 509-575-2024
Tper461@ecy.wa.gov

Updated March 2005

INTRODUCTION

Overview of the Public Participation Plan

This Updated Public Participation Plan (Plan) focuses on public participation at the Upriver Dam Sediments Site. Details about the location and background of the Site, companies involved in the project and contaminants of concern are found on pages 4-9.

The purpose of the Public Participation Plan is to promote public understanding of the Washington Department of Ecology's responsibilities, planning, and cleanup activities at the Site. It also serves as a way of gathering information from the public that will assist Ecology, Kaiser Aluminum & Chemical Corporation and Avista Development, Inc. to conduct the investigation and cleanup planning in a manner that is protective of human health and the environment. The Plan is designed to help the community living near the Upriver Dam Sediments Site, as well as the general public of Spokane, to be informed regarding Site cleanup activities and contribute to the decision making process where applicable.

This Plan has been developed by the Washington Department of Ecology (Ecology) and complies with the Washington State Model Toxics Control Act (MTCA) regulations (Chapter 173-340-600 WAC). Ecology will determine final approval of the Plan as well as any amendments.

Documents relating to the cleanup may be reviewed at the repositories listed on page 10 of this Plan. If individuals are interested in knowing more about the site or have comments regarding the

Public Participation Plan, please contact one of the individuals listed below:

Mr. John Roland, Site Manager WA State Department of Ecology Toxics Cleanup Program 4601 North Monroe Spokane, WA 99205 509-329-3581 E-mail: jrol461@ecy.wa.gov Mr. Doug Pottratz Environmental Compliance Administrator Avista Development, Inc. P O Box 3727 Spokane, WA 99220-3727 509-495-4499 E-mail: dpottratz@avistacorp.com Ms. Carol Bergin, Public Involvement WA State Department of Ecology Toxics Cleanup Program 4601 North Monroe Spokane, WA 99205 509-329-3546 E-mail: cabe461@ecy.wa.gov	Ms. Johnnie Landis, Public Disclosure WA State Department of Ecology 4601 North Monroe Spokane, WA 99205 509-329-3415 E-mail: johh@ecy.wa.gov **Если вам нужно помощь по русски, звоните** Igor Vern 360-407-0281 Iver461@ecy.wa.gov or Tom Perkow 509-575-2024 Tper461@ecy.wa.gov **Para asistencia Espanol**: Sr. Antonio Valero WA State Department of Ecology Toxics Cleanup Program 15 West Yakima Avenue, Suite 200 Yakima, WA 98902-3401 509-454-7840 E-mail: aval461@ecy.wa.gov

Public Participation and the Model Toxics Control Act

The Model Toxics Control Act (MTCA) is a "citizen-mandated" law that became effective in 1989 to provide guidelines for the clean up of contaminated sites in Washington State. This law sets up standards to make sure the clean up of sites is protective of human health and the environment. Ecology's Toxic Cleanup Program investigates reports of contamination that may threaten human health and/or the environment. If an investigation confirms the presence of contaminants, the site is generally ranked and placed on a Hazardous Sites List. Current or former owner(s) or operator(s), as well as any other potentially liable persons (PLPs), of a site may be held responsible for cleanup of contamination according to the standards set under MTCA. The PLPs identified by Ecology to date for this Site are Avista Development, Inc., a subsidiary of Avista Corporation (Avista); Kaiser Aluminum & Chemical Corporation (Kaiser), Inland Empire Paper Company (Inland Empire) and Liberty Lake Sewer District (Liberty Lake). Public participation is an important part of cleanup under the MTCA process. The participation needs are assessed at each site according to the level of public interest and degree of risk posed by contaminants. Individuals who live near the site, community groups, businesses, government, other organizations and interested parties are provided an opportunity to become involved in commenting on the cleanup process. The Public Participation Plan includes requirements for public notice such as: identifying reports about the site and the repositories where reports may be

read; providing public comment periods; and holding public meetings or hearings. Other forms of participation may be interviews, citizen advisory groups, questionnaires, or workshops. Additionally, citizen groups living near contaminated sites may apply for public participation grants (during open application periods) to receive technical assistance in understanding the cleanup process and to create additional public participation avenues.

SITE BACKGROUND

Site Description and History

The Upriver Dam site falls within the city of Spokane Valley, Spokane County, Washington (Appendix A Site Map) and is surrounded by residential homes, industrial and commercial businesses, a community college, police training center and other land uses. The site area of investigation begins at approximately river mile 80 near Upriver Dam and continues upstream to approximately river mile 85 just east of the Centennial Trail footbridge.

Several factors contributed to the cleanup investigations behind Upriver Dam. Fish sampling conducted between 1978 and 1999 showed high levels of lead and polychlorinated biphenyls (PCBs) in fish. This led Ecology, the Washington State Department of Health, and the local Spokane Regional Health District to issue a fish consumption advisory (see Appendix B). Ecology sampled sediments immediately behind Upriver Dam in 2000 and results confirmed the presence of PCBs. Additional studies conducted by Ecology, and review of historical records, affirmed concerns that known wastewater discharges may also contribute contamination to fish and sediments in this area.

In the fall of 2002, initial investigations were conducted to determine where and how much PCB contamination was in sediments behind Upriver Dam. Results demonstrated to Ecology that a formal Remedial Investigation/Feasibility Study was necessary to protect human health and the environment. The information collected from recent studies also resulted in a further understanding of PCBs in sediments and PCBs coming from Spokane area point sources (i.e., industrial and municipal permitted discharges). Avista, Kaiser and Liberty Lake Sewer District have been identified as potential contributors to PCB contamination through discharges of effluent wastewater to the Spokane River.

In January 2003, Ecology, Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation entered into a legal agreement to further evaluate the extent of PCB contamination in the Upriver Dam area. Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation are cooperating with Ecology in this site cleanup. Liberty Lake Sewer District and Inland Empire Paper Company have also been identified as responsible parties but have chosen not to participate in the cleanup. Ecology is accelerating this work to assure certainty and timeliness of cleanup, which is affected by Kaiser Aluminum & Chemical Corporation's bankruptcy.

Avista is the successor to the Pentzer Development Corporation which owned Spokane Industrial Park located on the Spokane River at approximately rivermile 87. The United States government is the past owner of the Spokane Industrial Park property, which was

originally constructed as a naval supply depot for use during World War II. Pentzer discharged industrial effluent wastewater to the Spokane River prior to 1994, under provisions of the State of Washington Water Pollution Control Law and the federal Water Pollution Control Act, or predecessor laws. Since 1994 Industrial Park wastewater is discharged to the City of Spokane municipal treatment plant.

Kaiser is the owner and operator of the Kaiser Trentwood Works in Spokane, Washington. Kaiser filed a petition for relief under Chapter 11 of the United States Bankruptcy Code in February 2002. Trentwood is located on the Spokane River at approximately river mile 86. Kaiser discharges treated industrial effluent wastewater to the Spokane River. The discharges are permitted under the provisions of the State of Washington Water Pollution Control Law and the federal Water Pollution Control Act. Kaiser has implemented numerous improvements to reduce PCBs in the facility's waste stream.

Contaminants of Concern

Polychlorinated biphenyl's (PCBs) are the main contaminants of concern at this site. a group of manufactured synthetic chemicals, either solids or oily liquids. They may range from colorless to light yellow in color and have no smell or taste. These chemicals were historically used as insulating fluids, coolants and lubricants in transformers, capacitors or other electrical equipment; as heat transfer and hydraulic fluids; in inks and carbonless paper. The manufacture of PCBs stopped in the United States in 1977 because of evidence they build up in the environment and may cause harmful health effects.

Common routes of human exposure to PCBs may include drinking contaminated well water; eating contaminated foods such as dairy, fish, and meat; breathing air contaminated with PCBs; conducting maintenance on electrical transformers containing PCB fluids or handling materials containing PCBs. For details regarding PCB health effects, please see the Agency for Toxic Substances and Disease Registry (ATSDR) website at www.atsdr.cdc.gov/tfacts17.html.

Potential human exposure risks for the Spokane River are primarily through eating fish caught in the river (see Appendix B). There are currently no known or suspected groundwater or airborne exposure risks as the contaminated sediments are under water and the known contaminated sediments are not associated with community swimming locations.

Fish and Sediments Advisories

Between 1978 and 1984 PCBs were found in fish samples collected from the Spokane River by the Washington State Department of Ecology. Additional studies conducted in the 1990s showed that fish collected from portions of the river continued to show significant contamination. As a result, the state Departments of Ecology and Health along with the local Spokane Regional Health District jointly issued fish and sediment advisories. These advisories warn the public about limiting fish consumption in certain areas of the river, how to prepare fish to reduce intake of PCB contamination, and warn about contamination in sediments at specific beaches. The current fish consumption advisory is based on data from fish samples collected in 1999. (See Appendix B for copies of the Fish and Sediment advisories). Ecology plans to collect additional fish

sampling data in the near future and evaluate it, along with fish tissue sampling data collected during the PCB Total Maximum Daily Load process conducted in 2004-2005.

Remedial Investigation (RI)

The purpose of the Remedial Investigation was to evaluate the extent of PCBs in sediments at the site. The report identified PCBs along with cadmium, lead, zinc, total organic carbon (TOC) and retene as contaminants of concern in sediments. The report also concluded that PCB contamination occurs mainly in two areas. These areas are identified as Deposit 1 and Deposit 2. Deposit 1 begins directly behind the dam, in deep water on the north side of the river, and covers approximately 3.7 acres in an easterly, up-stream direction. Deposit 2 covers a smaller 0.2 acre shallow-water area, along the north bank of the river, within a side channel, near what is called "Donkey Island."

Surface water sampling to investigate Deposit 1 showed fluctuations in PCB levels. Results showed higher concentrations of PCBs during lower flow periods in September 2003. All groundwater results collected near Deposit 1 indicate PCBs are significantly below required state and federal drinking water contaminant levels.

Feasibility Study (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™, or similar clay-based product, which is covered with a protective gravel armor on the surface. AquaBlok™ 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™ 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 (DCAP)

Ecology evaluated the proposed cleanup alternatives in the Feasibility Study and selected the following capping and removal cleanup methods for PCBs and co-occurring contaminants. The proposed actions are draft until public review and comment are considered.

Deposit 1 – Capping. Ecology selected Alternative 3D as the proposed cleanup option. There is a contingency remedy outlined in the DCAP that may be used instead of Alternative 3D if appropriate performance cannot be achieved during pre-design testing. The selected Alternative 3D actions below create a protective cap over the contamination at this location by doing the following:

- Placing a 6-inch layer of granular bituminous coal, not to be less than 4 inches at any location, over the PCB-contaminated sediments. Note: Granulated coal is an "active" capping material that strongly adsorbs and effectively captures dissolved PCBs that may move upward.

- Covering the coal with a 6-inch layer of sand.
- Covering the sand with a 3-inch layer of protective gravel armor.

Long-term monitoring will be used to assure effectiveness and integrity of the cap. Institutional controls may be applied, if necessary, to further protect the integrity of the cleanup action over time. Five year reviews will be conducted to ensure that the selected clean up action continues to provide adequate protection of human health and the environment. All permit requirements including federal, as well as state and local substantive requirements, will be met for work conducted at Deposits 1 and 2.

Deposit 2 – Removal and Replacement. Ecology selected a cleanup action similar to Alternative 4 as the proposed cleanup for the Donkey Island location. This option requires the following actions:

- Removing approximately 2 feet of fine-grained sediment down to cobble substrate.
- Replacing sediment that has been removed with approximately 2 feet of clean sand.
- Transporting excavated material to a licensed disposal facility.

Draft Consent Decrees.
Two draft Consent Decrees are proposed as legal agreements between the involved parties. The decrees ensure details of the draft Cleanup Action Plan are implemented in accordance with all applicable laws and regulations. A decree between Ecology and Kaiser, to be entered in federal bankruptcy court, requires Kaiser to make a financial contribution toward the cost of the cleanup. Another decree between Ecology and Avista will be entered in State court and established Avista as responsible for implementing the Cleanup Action Plan. Both Consent Decrees have the same cleanup goals and objectives.

Other Studies on the Spokane River

Coeur d'Alene Basin/Spokane River – Federal Cleanup
The United States Environmental Protection Agency (USEPA), under the authority of CERCLA (the federal Superfund), has been investigating heavy metals contamination in the Coeur d' Alene basin and throughout the upper Spokane River. Heavy metals contamination is associated with historic mining operations in Idaho and includes zinc, arsenic, cadmium and lead. These metals have been determined to be broadly distributed throughout the upper Spokane River including and extending beyond the fine grained sediment areas behind Upriver Dam where PCBs are located. Ten shoreline recreational and aquatic habitat sites have been identified in the USEPA Record of Decision (ROD) for cleanup, along with the development of a cleanup approach for metals-rich sediments stored immediately behind Upriver Dam. At the time of the release of this PPP, Engineering designs are being developed to clean up metals contamination at two beaches along the Spokane River that contain the highest levels of contamination. The designs may include capping, removal and/or stabilization of the contamination at Starr Road and Island Complex. The design documents are expected in the spring of 2005.

Total Maximum Daily Load (TMDL)

Ecology is also developing a Total Maximum Daily Load (TMDL) assessment consistent with the federal Clean Water Act to address PCBs in the Spokane River. This issue deals with PCBs and water quality rather than PCBs in sediments. A draft report of this TMDL assessment is expected to be made public in 2005.

COMMUNITY BACKGROUND

Community Profile and Concerns

The Site is located just behind the Upriver Dam in the Spokane River in the County of Spokane, Washington and is surrounded by industrial/commercial businesses and residential homes. Parts of the Spokane River are widely used for recreational activities including swimming, boating and fishing. Certain areas of the River are also used by the Spokane Tribe, Slavic and Hmong communities for subsistence fishing.

The neighborhood population, although predominantly Caucasian, continues to become more diverse as the area grows. Slavics, Vietnamese, Native Americans, Asians and Hispanics add to the rich culture of people living and recreating in this area.

As a result of community interviews conducted in the summer of 2002, the following are some of the primary concerns expressed regarding cleanup of PCB contamination in sediments behind Upriver Dam:

- Some individuals expressed concern about potential negative economic impacts to home/property values.
- There is concern about how access to the river for recreation may be affected during cleanup.
- Property owners, users of the river and others interested in this site raised questions about whether disturbance to sediments during cleanup will reduce contamination versus increase it or move it to areas not currently contaminated. They are also concerned about recontamination issues.
- Keeping the aquifer/drinking water clean is a priority.
- People living along or near the river want to be informed about the work taking place and have an opportunity to contribute their opinions in the decision-making process.
- People want to be informed of any health risks for children, adults and pets that use the river.
- A coordinated effort to clean up the heavy metals contamination, address Total Maximum Daily Loads (TMDLs) and PCBs is preferred.

Ecology will focus on addressing these concerns through the activities listed in the Public Participation Activities and Timeline section below.

Public Participation Activities and Timeline

Some public participation efforts which will occur until the cleanup actions are completed are as follows:

- A **mailing list** is being developed for individuals who live near the Site. The potentially affected vicinity covers the adjacent properties and homes and/or businesses within close proximity to the Site and areas to be investigated. These persons along with Avista and Kaiser will receive copies of all fact sheets developed regarding the cleanup process via first class mail. Additionally, individuals, organizations, local, state and federal governments, and any other interested parties will be added to the mailing list as requested. Other interested persons may request to be on the mailing list at any time by contacting Carol Bergin at the Department of Ecology (see page 3 for details).

- **Public Repositories** have been established and documents may be reviewed at the following offices:

  Washington Department of Ecology
  4601 North Monroe
  Spokane, WA 99205-1295
  Contact: Ms. Johnnie Landis, Public Disclosure Coordinator
  509-629-3415

  Spokane Public Library
  906 West Main
  Spokane, WA 99201
  Contact: Ms. Dana Darylmple
  509-444-5300

  Argonne County Library
  4322 North Argonne Road
  Spokane, WA 99206
  Contact: Ms. Judy Luck
  509-926-4334

  Spokane Valley Public Library
  12004 East Main
  Spokane Valley, WA 99216
  Contact: Karen Byrne
  509-926-6283

- During each stage of cleanup **fact sheets** are created by Ecology then distributed to individuals on the mailing list. These fact sheets explain the stage of cleanup, the Site background, what happens next in the cleanup process and ask for comments from the public. A **30-day comment period** allows interested parties time to comment on the process. The information from these fact sheets is also published in a statewide **Site Register** which is sent to those who request to be on that mailing list. Persons interested in receiving the Site Register should contact Linda Thompson of Ecology at (360) 407-6069 or e-mail Ltho461@ecy.wa.gov. The fact sheets are also posted on Ecology's web page under the Toxics Cleanup Program at http://www.ecy.wa.gov/programs/tcp/sites/spo_riv/spo_riv.htm

- **Display ads or legal notices** are published in the Spokesman Review to inform the general public. These notices are published at the beginning of the 30-day comment period for the public notices. They are also used to announce public meetings and workshops or public hearings. Notices are also published in Russian and Spanish.

- **Public meetings, workshops, open houses and public hearings** are held based upon the level of community interest. If ten or more persons request a public meeting or hearing based on the subject of the public notice, Ecology will hold a meeting or hearing and gather comments. **These meetings, workshops or hearings will be held at a location close for the community living near the Site to attend.**

- Flyers may also be made available in various locations throughout the community (e.g., postings near Boulder Beach, at schools, libraries, etc.) to announce public comment periods, meetings, workshops, etc.

- Written comments which are received during the 30-day comment period may be responded to in a **Responsiveness Summary**. The Responsiveness Summary will be sent to those who make the written comments and will be available for public review at the Repositories.

Answering Questions from the Public

Individuals in the community may want to ask questions to better understand the cleanup process. Page 3 lists the contacts for the Upriver Dam Sediments Site. Interested persons are encouraged to contact these persons by phone or e-mail to obtain information about the Site, the process and potential decisions.

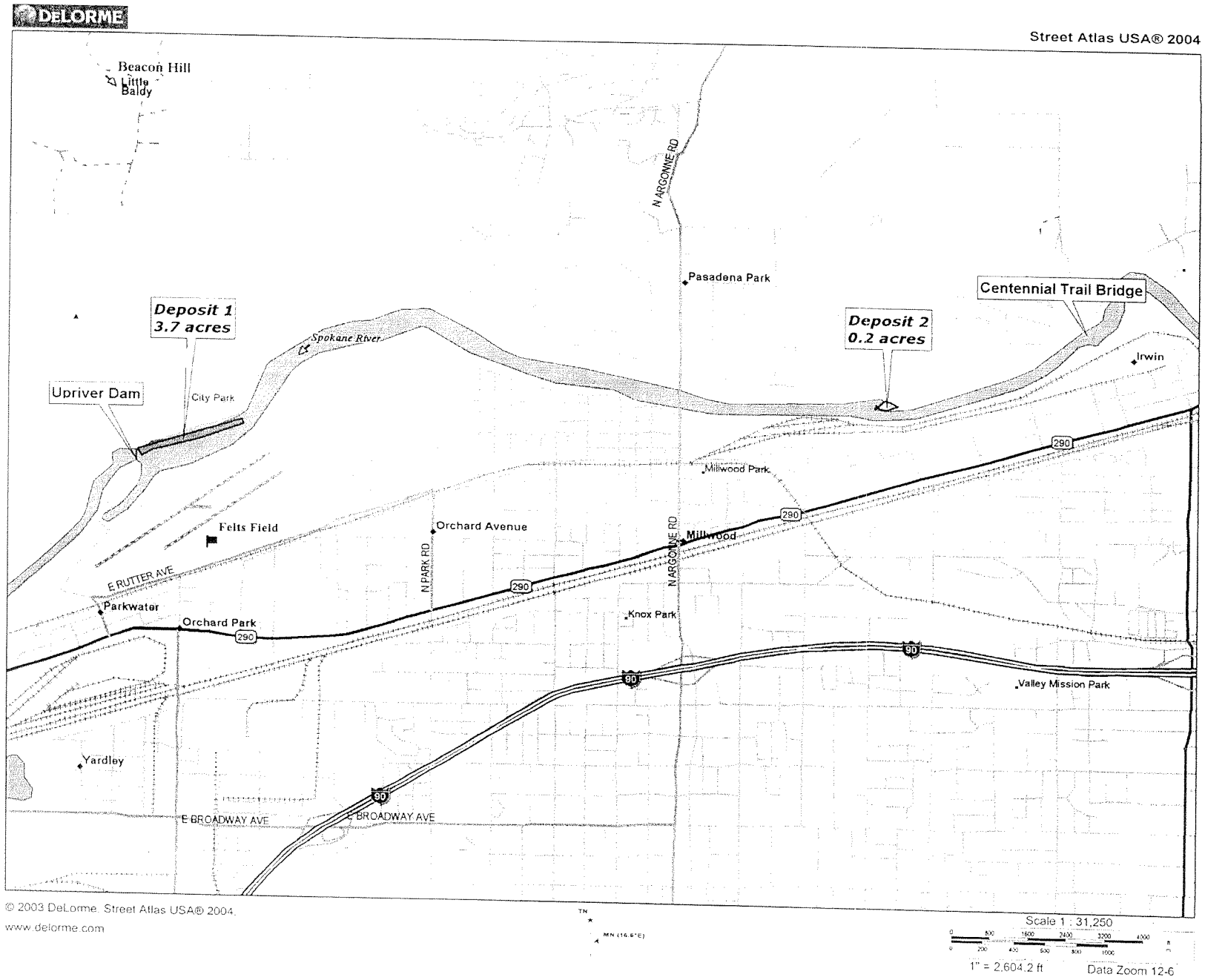
Public Notice and Comment Periods

Timeline

ACTION TAKEN	DATE
Community Interviews	July and August 2002
Draft Consent Decree for the Remedial Investigation/Feasibility Study	October 2002
Fact Sheet for the Draft Consent Decree for the Remedial Investigation/Feasibility Study [English, Spanish, Russian, Hmong and Vietnamese]	October 25 through November 23, 2002
Responsiveness Summary for Consent Decree/RI/FS	December 17, 2002
Draft Final Focused Remedial Investigation Report	February 2005
Draft Final Focused Remedial Investigation Report Appendices	February 2005
Draft Final Focused Feasibility Study	February 2005
Public Update re: Remedial Investigation/Feasibility Study availability and upcoming DCAP, Consent Decree and SEPA documents **(notice was to inform public that comment period is coming and documents were available prior to comment period - no comment period)**	February 2005
Remedial Investigation/Feasibility Study Reports, Draft Cleanup Action Plan, Draft Consent Decrees and Draft State Environmental Policy Act (SEPA) and Determination of Non-Significance (DNS)	March 22 – April 20, 2005
Public Meeting for Remedial Investigation/Feasibility Study Reports, Draft Cleanup Action Plan, Draft Consent Decrees and Draft State Environmental Policy Act (SEPA) and Determination of Non-Significance (DNS)	March 28, 2005 – Spokane Community College

APPENDIX A

SITE MAP


DeLorme
Street Atlas USA® 2004
Beacon Hill
Little Baldy
N ARGONNE RD
Pasadena Park
Centennial Trail Bridge
Deposit 1
3.7 acres
Spokane River
Deposit 2
0.2 acres
Irwin
Upriver Dam
City Park
290
Millwood Park
Felts Field
Orchard Avenue
Millwood
E RUTTER AVE
N PARK RD
N ARGONNE RD
Parkwater
Orchard Park
Knox Park
90
Valley Mission Park
Yardley
E BROADWAY AVE
E BROADWAY AVE
© 2003 DeLorme. Street Atlas USA® 2004.
www.delorme.com
TN
MN (16.6°E)
Scale 1 : 31,250
1" = 2,604.2 ft
Data Zoom 12-6

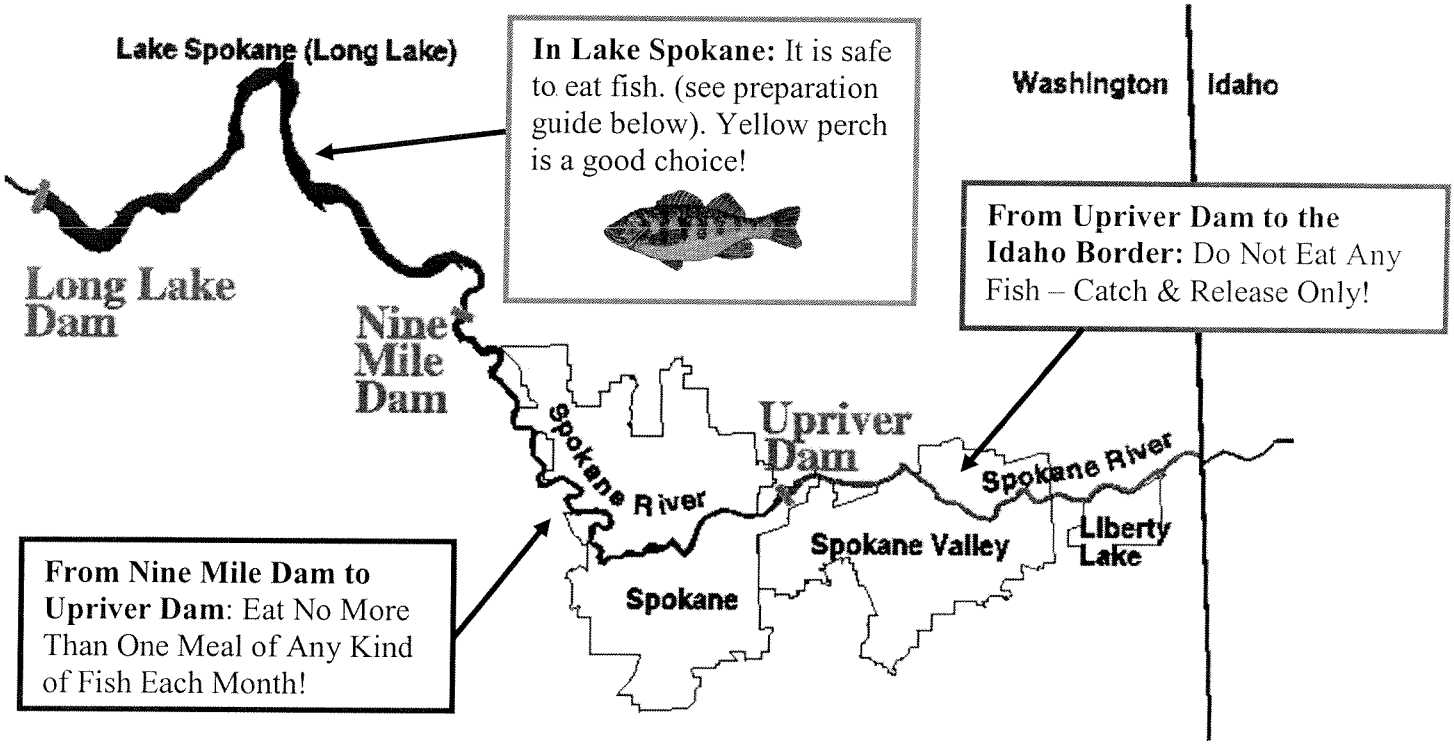
APPENDIX B

FISH and SEDIMENT ADIVSORIES

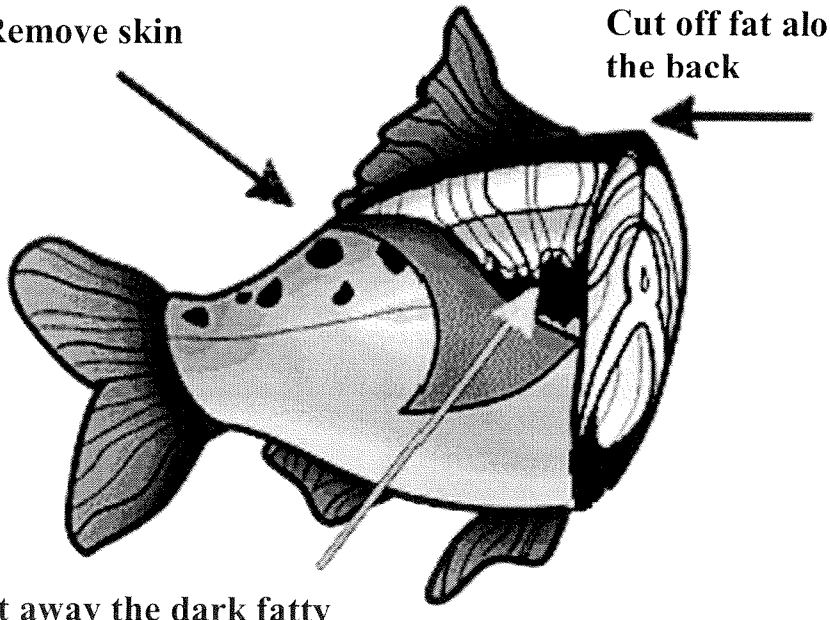
Spokane River Fish Meal Advisory

Issued July 2003

Spokane River fish contain chemicals called PCBs that can be harmful to your health. Fish from some parts of the river have more PCBs than others. Follow the advice given below if you eat fish from the Spokane River. Because PCBs can harm babies before they are born, women who are expecting a baby or planning to have babies should pay special attention to this warning.



Prepare Your Fish this way to Reduce Your Exposure to PCB's:



- **Cook fish on a rack so the juices and fat will drip off.**
- **Do not eat the juices, bones, organs, fat, and skin.**

For More Information Call
Toll-Free: 1-877-485-7316
www.doh.wa.gov/ehp/oehas/EHA fish adv.htm
or
Contact the Spokane Regional Health District at:
(509) 324-1574
www.srhd.org

Washington State Department of Health

SPOKANE REGIONAL HEALTH DISTRICT

ATTENTION

LEAD AND ARSENIC IN SHORELINE SOILS

Frequent contact with shoreline soils along the Spokane River from State Line to Plantes Ferry Park may be unsafe, particularly for young children. Follow these steps to limit your exposure to lead and arsenic in these soils.

- **Avoid muddy soil that might cling to clothing, toys, hands or feet.**
- **Wash your hands and face, especially before eating.**
- **Avoid dry, loose, or dusty soils that you might breathe.**
- **Wash anything that has come in contact with shoreline soils before entering your home.**

For more information contact the Spokane Regional Health District at:

(509) 324-1574

APPENDIX C

UPDATES and FACT SHEETS

UPRIVER DAM PCB SEDIMENTS SITE

(Spokane River PCB Sediment Contamination Project)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

How will PCBs in Sediments Behind Upriver Dam be Addressed?

Capping and Removal of Sediments Recommended
The Washington State Department of Ecology has reviewed investigations and the proposed cleanup alternatives for polychlorinated biphenyls (PCBs) in sediments at the Upriver Dam site. The investigation covers the river area from approximately river mile 80 by the dam, to river mile 85 east of the Centennial Trail footbridge in the city of Spokane Valley, Spokane County, Washington (Fig. 1). Two locations are identified for cleanup. Capping is proposed for contaminated sediments found underwater immediately behind Upriver Dam, and removal is proposed for sediment from a side channel at Donkey Island. The proposed capping and removal effectively eliminate risks posed by PCBs and co-occurring contaminants found in sediments within the site. Co-occurring contaminants in sediments include heavy metals (e.g., cadmium, lead and zinc) and woody materials (e.g., total organic carbon (TOC) and retene).

Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation are cooperating with Ecology in this site cleanup. Liberty Lake Sewer District and Inland Empire Paper Company have also been identified as responsible parties but have chosen not to participate in the cleanup at this time. Ecology is accelerating this work to assure certainty and timeliness of cleanup, which is affected by Kaiser Aluminum & Chemical Corporation's bankruptcy.

Polychlorinated Biphenyls (PCBs) are a group of manufactured, man-made 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. The main concern for PCB exposure to humans is from eating fish caught in certain sections of the Spokane River. Details about PCBs may be found on page 3.

Six Documents Ready for Review and Comment March 22 through April 20, 2005. The documents listed below are considered draft and do not become final until after the public comment period and any appropriate adjustments have been made. The box on page 3 has the locations for reviewing documents and sending comments.

- Remedial Investigation - What was Found at the Site;
- Feasibility Study - Proposed Cleanup Alternatives;
- Cleanup Action Plan - Ecology's Evaluation of Alternatives and Selected Cleanup;
- Consent Decrees (2)- Legal Agreements Between Ecology and Liable Persons; and
- State Environmental Policy Act (SEPA) Determination of Non-Significance (DNS).

A ***public meeting*** will be held **March 28, 2005, from 7-9 p.m.** to provide information about the investigations and proposed cleanup followed by a question and answer period. Meeting details are found on page 3.

Site History. Several factors contributed to the cleanup investigations behind Upriver Dam. Fish sampling conducted between 1978 and 1999 showed high levels of lead and PCBs in fish. This led Ecology, the Washington State Department of Health, and the local Spokane Regional Health District to issue a fish consumption advisory. Ecology sampled sediments immediately behind Upriver Dam in 2000 and results confirmed the presence of PCBs. Additional studies conducted by Ecology, and review of historical records, affirmed concerns that known wastewater discharges may also contribute contamination to fish and sediments in this area.

In the fall of 2002, initial investigations were conducted to determine where and how much PCB contamination was in sediments behind Upriver Dam. Results demonstrated to Ecology that a formal Remedial Investigation/Feasibility Study was necessary to protect human health and the environment.

In January 2003, Ecology, Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation entered into a legal agreement to further evaluate the extent of PCB contamination in the Upriver Dam area.

Contaminants Identified in Draft Remedial Investigation Report. The purpose of the Remedial Investigation was to evaluate the extent of PCBs in sediments at the site. The report identified PCBs along with cadmium, lead, zinc, total organic carbon (TOC) and retene as contaminants of concern in sediments. The report also concluded that PCB contamination occurs mainly in two areas. These areas are identified as Deposit 1 and Deposit 2 (See Fig. 1). Deposit 1 begins directly behind the dam, in deep water on the north side of the river, and covers approximately 3.7 acres in an easterly, up-stream direction. Deposit 2 covers a smaller 0.2 acre shallow-water area, along the north bank of the river, within a side channel, near what is called "Donkey Island" (See Fig. 1).

Surface water sampling to investigate Deposit 1 showed fluctuations in PCB levels. Results showed higher concentrations of PCBs during lower flow periods in September 2003.

All groundwater results collected near Deposit 1 indicate PCBs are significantly below required state and federal drinking water contaminant levels.

Four Alternatives and Five Sub-Alternatives for Deposits 1 and 2 Evaluated in Draft Feasibility Study

- *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* has 5 sub-alternatives 3A-3E that place sand, gravel, and/or coal and clay products in varying thicknesses over the PCB-contaminated sediments mainly at Deposit 1. To varying degrees, these sub-alternatives include stabilizing PCBs in sediments, preventing possible erosion, creating a clean environment for bottom-dwelling organisms, and eliminating or reducing transport of dissolved PCBs into the overlying water column or underlying groundwater. Long-term monitoring is also included.

- *Alternative 4: Dredging, Off-site Disposal and Residuals Capping* would remove an estimated 3.5 feet of sediments in Deposit 1 and 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. Under this alternative, 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.

All alternatives assume there will be water quality controls implemented upstream to deal with other 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.

Ecology Selects Capping and Removal in the Draft Cleanup Action Plan. Ecology evaluated the proposed cleanup alternatives in the Feasibility Study and selected the following capping and removal cleanup methods for PCBs and co-occurring contaminants. The proposed actions are draft until public review and comment are considered.

Deposit 1 - Capping. Ecology selected Alternative 3D as the proposed cleanup option. There is a contingency remedy outlined in the DCAP that may be used instead of Alternative 3D if appropriate performance cannot be achieved during pre-design testing. The selected Alternative 3D actions below create a protective cap over the contamination at this location by doing the following:

- Placing a 6-inch layer of granular bituminous coal, not to be less than 4 inches at any location, over the PCB-contaminated sediments.
  Note: Granulated coal is an "active" capping material that strongly adsorbs and effectively captures dissolved PCBs that may move upward.
- Covering the coal with a 6-inch layer of sand.
- Covering the sand with a 3-inch layer of protective gravel armor.

Long-term monitoring will be used to assure effectiveness and integrity of the cap. Institutional controls may be applied, if necessary, to further protect the integrity of the cleanup action over time. Five year reviews will be conducted to ensure that the selected clean up action continues to provide adequate protection

of human health and the environment. All permit requirements including federal, as well as state and local substantive requirements, will be met for work conducted at Deposits 1 and 2.

Deposit 2 - Removal and Replacement. Ecology selected a cleanup action similar to Alternative 4 as the proposed cleanup for the Donkey Island location. This option requires the following actions:

- Removing approximately 2 feet of fine-grained sediment down to cobble substrate.
- Replacing sediment that has been removed with approximately 2 feet of clean sand.
- Transporting excavated material to a licensed disposal facility.

Draft Consent Decrees. Two draft Consent Decrees are proposed as legal agreements between the involved parties. The decrees ensure details of the draft Cleanup Action Plan are implemented in accordance with all applicable laws and regulations. A decree between Ecology and Kaiser, to be entered in federal bankruptcy court, requires Kaiser to make a financial contribution toward the cost of the cleanup. Another decree between Ecology and Avista will be entered in State court and makes Avista responsible for implementing the Cleanup Action Plan. Both Consent Decrees have the same cleanup goals and objectives.

Draft State Environmental Policy Act (SEPA) and Determination of Non-Significance (DNS) - No Probable Adverse Impact. 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 has determined the cleanup of PCBs will not have a probable adverse impact on the environment.
- This action will benefit the environment by reducing the release of toxic chemicals from the site.
- Therefore, Ecology has issued a Determination of Non-Significance.

March 2005 Publication No. 05-09-021

Comments Accepted: March 22 through April 20, 2005

Public Meeting: Monday, March 28, 2005 7-9 p.m.
Spokane Community College, 1810 North Greene Street
Lair Auditorium, Bldg 6, Spokane, WA

A public hearing will be held if at least ten people request one.

Document Review Locations

WA Department of Ecology
Eastern Regional Office, 4601 North Monroe
Spokane, WA 99205-1295
Mrs. Johnnie Landis 509-329-3415

Spokane Public Library, 906 West Main Ave
Spokane, WA 99201 509-444-5300

Argonne County Library, 4322 North Argonne
Spokane, WA 99206 509-926-4334

Spokane Valley Library, 12004 East Main
Spokane Valley, WA 99216 509-926-6283

Ecology's Toxics Cleanup Website:
http://www.ecy.wa.gov/programs/tcp/sites/spo_riv/spo_riv.htm

Comments/Technical Questions:

Mr. John Roland
WA Department of Ecology
Eastern Regional Office
4601 North Monroe
Spokane, WA 99205-1295
509-329-3581 or 1-800-826-7716
E-mail: jrol461@ecy.wa.gov

Public Meetings, Hearings and Mailings:

Ms. Carol Bergin
WA Department of Ecology
1-800-826-7716 or 509-329-3546
E-mail: cabe461@ecy.wa.gov

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

Fish and Sediment Advisories:
http://www.ecy.wa.gov/programs/tcp/sites/spo_riv/Spokane_River_hp.htm

Если вам нужно помощь по русски
Звоните: Igor Vern 360-407-0281
Thomas Perkow 509-575-2024

Para asistencia en Espanol:
Sr. Antonio Valero 509-454-7840

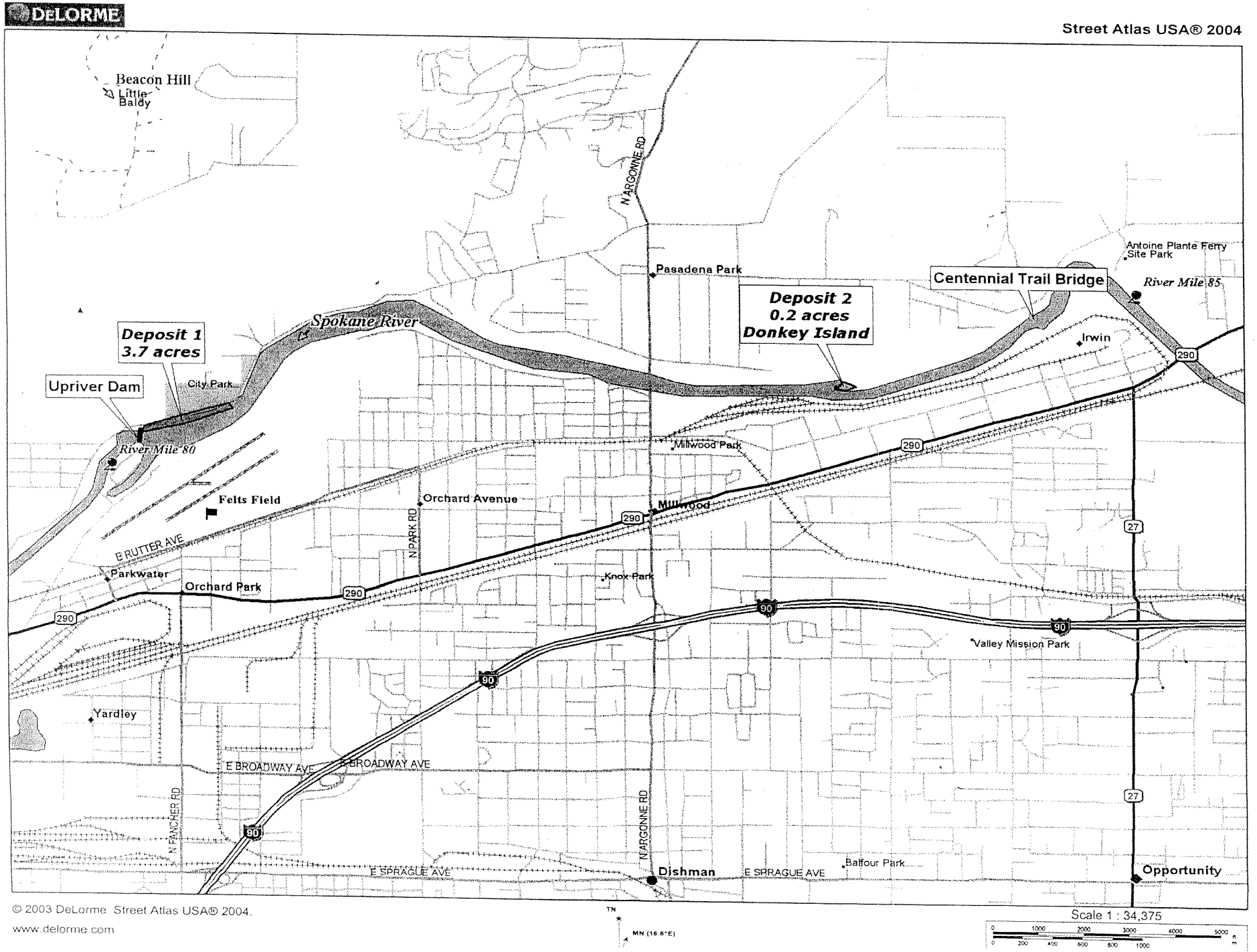


FIGURE 1

If you require this publication in an alternate format, please call Marilyn Summers at 509-329-3444 or call 711 or 1-800-833-6388 (TTY)

UPRIVER DAM
PCB SEDIMENTS SITE

WASHINGTON STATE DEPARTMENT OF ECOLOGY

(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.

Contact Information

Если вам нужно помощь по русский, звоните

Igor Vern 360-407-0281
Элек.-Почта:
iver461@ecy.wa.gov

Thomas Perkow 509-575-2024
Элек.-Почта:
tper461@ecy.wa.gov

Para asistencia en Espanol
Sr. Antonio Valero 509-454-7840
E-mail: aval461@ecy.wa.gov

Document Review Locations

WA Department of Ecology
Eastern Regional Office
4601 North Monroe
Spokane, WA 99205-1295
Ms. Johnnie Landis 509-329-3415

Spokane Valley Library
12004 East Main
Spokane Valley, WA 99216
Mr. Dave Barnett
509-926-6283

Argonne County Library
4322 North Argonne Road
Spokane, WA 99206
Ms. Judy Luck
509-926-4334

Spokane Public Library
906 West Main
Spokane, WA 99202
Ms. Dana Darylmple
509-444-5300

Technical Questions/Comments
Mr. John Roland
WA Department of Ecology
4601 North Monroe
Spokane, WA 99205-1295
509-329-3581 or 1-800-826-7716
E-mail: jrol461@ecy.wa.gov

Hearings, Meetings and Mailing List Requests
Ms. Carol Bergin
WA Department of Ecology
1-800-826-7716 or
509-329-3546
E-mail: cabe461@ecy.wa.gov

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

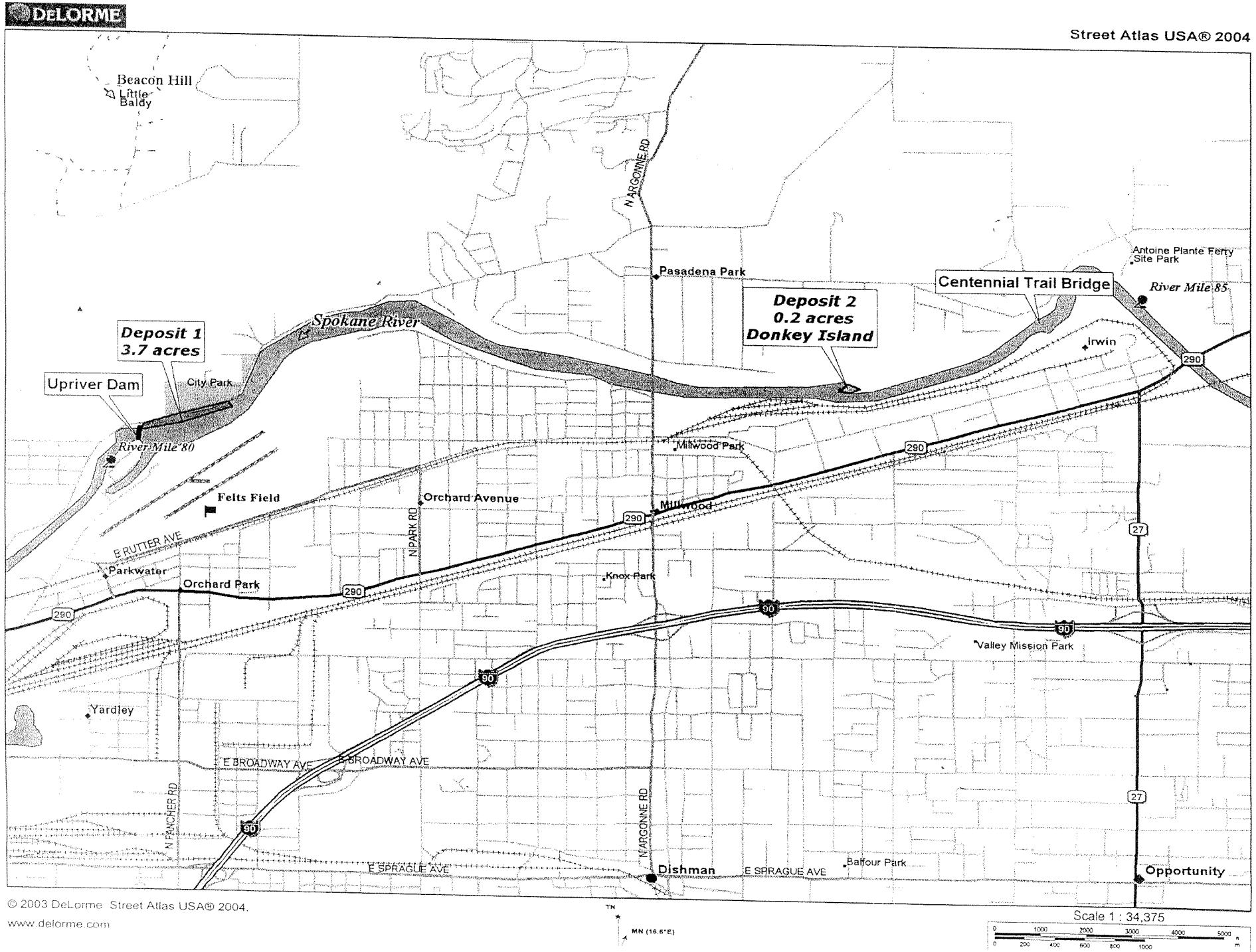

DeLORME
Street Atlas USA® 2004
Beacon Hill
Little Baldy
N ARGONNE RD
Pasadena Park
Antoine Plante Ferry Site Park
River Mile 85
Centennial Trail Bridge
Deposit 2
0.2 acres
Donkey Island
Spokane River
Deposit 1
3.7 acres
Irwin
290
Upriver Dam
City Park
River Mile 80
Millwood Park
Felts Field
Orchard Avenue
Millwood
E RUTTER AVE
N PARK RD
27
Parkwater
Orchard Park
Knox Park
90
Valley Mission Park
Yardley
E BROADWAY AVE
N PANCHER RD
E SPRAGUE AVE
Dishman
Balfour Park
Opportunity
© 2003 DeLorme Street Atlas USA® 2004.
www.delorme.com
TN
MN (16.6°E)
Scale 1 : 34,375

FIGURE 1

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UPRIVER DAM
PCB SEDIMENTS SITE UPDATE
(Spokane River PCB Contamination Project)

The Washington Department of Ecology began investigations in the fall of 2002 to determine where and how much polychlorinated biphenyls (PCB) contamination exists in sediments found in and along the Spokane River behind Upriver Dam. The studies cover the area from Upriver Dam (approx. rivermile 80) to the Centennial Trail footbridge (approx. rivermile 85).

Ecology entered into a Consent Decree with Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation in January 2003 to perform a remedial investigation and feasibility study (RI/FS) which focuses on PCB contamination in sediments. The Consent Decree is a legal agreement between Ecology and parties responsible for the contamination. It provides specifics of how the investigations and evaluation of cleanup alternatives will be carried out in accordance with Washington's toxic waste cleanup law - the Model Toxics Control Act, or MTCA. Although Kaiser is currently in bankruptcy, participation in the Consent Decree is approved by the federal bankruptcy court. Liberty Lake Sewer District and Inland Empire Paper Company have also been identified as responsible parties, but are not participants to this decree.

Ecology is continuing to gather data to determine the nature and extent of contamination in the study area. The investigation phase will be completed by the middle of 2004. The feasibility study will then be conducted to evaluate and propose certain cleanup alternatives. Remedial Investigation and Feasiblity Study reports will be completed and made available to the public for comment in late 2004. After the comment period is closed and the report is finalized the project will proceed with the development of a Draft Cleanup Action Plan. This plan will contain Ecology's selected cleanup alternative and will be made available for a 30-day comment period.

Polychlorinated Biphenyls (PCBs) are a group of manufactured chemicals, either solids or oily liquids. In pure product form they may range from colorless to light yellow in color and have no smell or taste. These chemicals have been used in the past for several industrial and commercial purposes including as coolants and lubricants, in electrical equipment and inks and various other uses. Since 1977 PCBs have not been manufactured in the United States because of evidence they build up in the environment and may cause harmful health effects.

Humans may be exposed to PCBs from the Spokane River by eating fish caught from certain locations of the river. Swimming in the river is safe and does not pose a threat to health.

Concerns about PCB-contaminated fish in the Spokane River prompted the Department of Health, the Department of Ecology, and the Spokane Regional Health District to issue a fish-consumption advisory in 1999 that was updated in March 2001. The current advisory issued in July 2003 by the Department of Health and Spokane Regional Health District recommends that no fish caught between Upriver Dam and the Idaho border should be consumed. People are

being encouraged to eat fish from Lake Spokane (Long Lake) where PCBs in fish are lower and to be aware of ways to reduce any potential consumption of PCBs through good preparation and cooking methods. As a courtesy, we have enclosed the July 2003 advisory. The advisory may also be found on Department of Health's website at www.doh.wa.gov/ehp/oehas/EHA_fish_adv.htm or Spokane Regional Health District at www.srhd.org.

Other Studies

The United States Environmental Protection Agency (USEPA) under authority of CERCLA (the federal Superfund) has also been conducting studies on the Spokane River. The USEPA work focuses on metals such as zinc, arsenic, cadmium and lead associated with historic mining operations in Idaho. These metals have been broadly distributed throughout the upper Spokane River, including and extending beyond the fine grained sediment areas behind Upriver Dam where the PCBs under study are located. The USEPA Record of Decision, or ROD, (September 2002) selects capping or dredging as the cleanup alternatives to reduce metals risks in sediments associated with Upriver Dam. A final alternative has not been selected between these two sediment cleanup options. In addition, ten shoreline beach areas in Washington upstream of Upriver Dam, which are impacted by metals, also are slated to be cleaned up. For more information on the USEPA metals cleanup efforts in the Coeur d'Alene Basin and information on the Spokane Regional Health District beach use advisory see the following websites:
http://yosemite.epa.gov/r10/cleanup.nsf/sites/cda
http://www.srhd.org/safety/environment/pdf/ShorelineSoilsAdvisories.pdf

Ecology plans to coordinate, to the extent possible, the cleanup actions focused on PCBs in sediments at the Upriver Dam Site with the USEPA's metal cleanup plans.

Ecology is also developing a Total Maximum Daily Load (TMDL) assessment of PCBs and an associated water quality improvement plan for the Spokane River. This improvement effort focuses primarily on controlling PCBs through reductions in the discharge of PCBs, rather than the cleanup of PCBs in sediments. The TMDL study plan, called a Quality Assurance Project Plan (QAPP), is currently available for comment and may be found at Ecology's website: **http://www.ecy.wa.gov/biblio/0303107.html.**

ECOLOGY CONTACTS: John Roland (509) 329-3581 or e-mail at jrol461@ecy.wa.gov
Site Manager for PCB cleanup in sediments behind Upriver Dam

Ken Merrill - (509) 329-3515 or e-mail at kmer461@ecy.wa.gov
Project Manager for TMDL/PCB work - Ken Merrill

UPRIVER DAM PCB SEDIMENTS SITE

(Spokane River PCB Contamination Project)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

DRAFT CONSENT DECREE FOR THE REMEDIAL INVESTIGATION/FEASIBILITY STUDY

The Washington Department of Ecology is proposing to enter into a Consent Decree to perform a Remedial Investigation and Feasibility Study (RI/FS) at the Upriver Dam PCB Sediments Site. The study will focus on polychlorinated biphenyls (PCBs) in sediments. The area to be studied is from approximately rivermile 80 at the Upriver Dam to approximately rivermile 85 located upstream of the Dam near the Centennial Trail footbridge. The Site is located in the County of Spokane, Washington (Figure 1).

The proposed Consent Decree will be a legal agreement between Ecology, Avista Development, Inc. and Kaiser Aluminum & Chemical Corporation regarding actions which will be performed as part of the RI/FS. The proposed Consent Decree will be implemented under the authority of the Model Toxics Control Act (MTCA) Chapter 70.105D (RCW). Because Kaiser is currently in bankruptcy, Kaiser and Avista participation in the Consent Decree is conditioned upon approval of the federal bankruptcy court.

The purpose of the Remedial Investigation (RI) is to gather more information to determine the nature and extent of PCBs in sediments in and along the Spokane River at and upstream of the dam along the portion of the river hydraulically influenced by Upriver Dam.

The Feasibility Study will identify and evaluate potential alternatives to address PCBs at the Site. An RI/FS Report will be made available to the public for comment before becoming final.

After the 30-day comment period for the proposed Consent Decree, Ecology will respond to comments received and may negotiate modifications, if appropriate.

Ecology invites the public to review and comment on the Draft Consent Decree for the Remedial Investigation/ Feasibility Study from October 25 through November 23, 2002. The box on the right indicates where documents may be reviewed, comments sent and additional information obtained. If ten or more persons request a public meeting or hearing on the Draft Consent Decree for the RI/FS, Ecology will grant the request.

Health Advisory

In March 2001 an updated health advisory was issued by the Spokane Regional Health District (in cooperation with state departments of Health and Ecology), advising

OCTOBER 2002 FACT SHEET

COMMENTS ACCEPTED:
October 25, through November 23, 2002.
This fact sheet is available in English, Russian, Spanish, Hmong and Vietnamese on Ecology's website under the Spokane River section at http://www.ecy.wa.gov/programs/tcp/sites/sites.html

Для помощи на Русском звоните:
Павлу Герасимчуку (509) 893-3723
Элек.-Почта: gerasimchuk@msn.com

Para asistencia en Espanol:
Sr. Antonio Valero (509) 454-7840
E-mail: aval461@ecy.wa.gov

REPOSITORIES: (document review)
WA Department of Ecology
Eastern Regional Office
4601 N. Monroe, Spokane, WA 99205-1295
Ms. Johnnie Harris (509) 456-2751

Argonne County Library
4322 North Argonne Road
Spokane, WA 99206
Ms. Judy Luck (509) 926-4334

Spokane Public Library
906 West Main, Spokane, WA 99202
Ms. Dana Darylmple (509) 444-5300

Questions/comments: Mr. John Roland
WA Department of Ecology
Toxics Cleanup Program
4601 N. Monroe, Spokane, WA 99205-1295
(509) 625-5182 or 1-800-826-7716
E-mail: jrol461@ecy.wa.gov

Mailing list / public hearing request:
Ms. Carol Bergin
WA Department of Ecology
1-800-826-7716 or (509) 456-6360
E-mail: cabe461@ecy.wa.gov
PCB details see Agency for Toxic Substances and Disease Registry
http://www.atsdr.cdc.gov/tfacts17.html

March 2001 Health Advisory for Spokane River Fish Consumption:
http://www.ecy.wa.gov/programs/tcp/sites/spo_riv/spo_riv_fish_adv.pdf

Publication No. 02-09-073

people to avoid or significantly limit their consumption of fish caught from certain locations of the river. See the box on page one for the website location of the advisory.

Polychlorinated Biphenyls (PCBs)

Polychlorinated biphenyls (PCBs) are a group of manufactured synthetic chemical products, either solids or oily liquids. In product form they may range from colorless to light yellow in color and have no smell or taste. These chemicals were historically used as insulating fluids, coolants and lubricants in transformers, capacitors or other electrical equipment; as heat transfer and hydraulic fluids; in inks; carbonless paper; and other uses. The manufacture of PCBs stopped in the United States in 1977 because of evidence they build up in the environment and may cause harmful health effects.

The potential human exposure to PCBs from the Spokane River is mainly through eating fish caught from certain locations of the river. The contaminated sediments are not known to be associated with community swimming locations.

Between 1978 and 1984 PCBs were found in fish samples collected by Ecology from the Spokane River. Additional studies done in the late 1990s show fish collected from certain locations still contain significant contamination.

The information collected from recent studies also resulted in a further understanding of PCBs in sediments and PCBs coming from Spokane-area point sources (i.e., industrial and municipal permitted discharges). Avista, Kaiser and Liberty Lake Sewer District have been identified as potential contributors to PCB contamination in Upriver Dam sediments through historic discharges of effluent wastewater to the Spokane River.

Other Studies

The United States Environmental Protection Agency (USEPA) under authority of CERCLA (the federal Superfund) has also been conducting studies on the Spokane River. The USEPA studies have focused on metals such as zinc, arsenic, cadmium and lead associated with historic mining operations in Idaho. These metals have been broadly distributed throughout the upper Spokane River, including and extending beyond the fine grained sediment areas behind Upriver Dam where PCBs are located. The USEPA Record of Decision (September 2002) selects capping or dredging as the cleanup alternatives to reduce metals risks in sediments associated with Upriver Dam. A final alternative has not been selected between these two options. For more information on the USEPA metals cleanup efforts in the Coeur d'Alene Basin see the following website: http://yosemite.epa.gov/r10/cleanup.nsf/sites/cda

The RI/FS to be performed by Kaiser and Avista is expected to be completed near the end of 2004. The USEPA metals RI/FS has been completed, but additional assessment work is anticipated near Upriver Dam. Ecology plans to coordinate, to the extent possible, the cleanup actions focused on PCBs in sediments at the Upriver Dam Site with the USEPA's plans.

Ecology is also developing a Total Maximum Daily Load (TMDL) assessment of PCBs in the Spokane River. This issue deals mainly with PCBs and water quality rather than the PCBs in sediments. A draft report of the TMDL assessment is expected in 2004.

What Happens Next?

Ecology will review all written comments submitted on the proposed Consent Decree for the PCB RI/FS, and, if necessary, may negotiate modifications to the Consent Decree. A Responsiveness Summary will be prepared to answer comments received. It will be available in the repositories listed on page one. Once the Consent Decree is finalized and approved by the appropriate courts, work will begin on completing the RI/FS.

How You May Be Involved:

- **Review the Draft Consent Decree for the Remedial Investigation/Feasibility Study October 25, through November 23, 2002.** Copies of the Consent Decree are available for review at the repositories listed in the shaded box on page one. Files may be reviewed at Ecology in Spokane Monday through Thursday, 8-5 p.m. by appointment only.
- **Submit written comments by November 23, 2002** to Mr. John Roland, Site Manager, at the Ecology address listed in the shaded box on page one.
- **Share this information** with interested individuals or groups.

APPENDIX D

CURRENT MAILING LIST

UPRIVER DAM SEDIMENTS SITE
(Provided Upon Request)

APPENDIX E
GLOSSARY

Agreed Order: A legal document issued by Ecology which formalizes an agreement between the department and potentially liable persons (PLPs) for the actions needed at a site. An agreed order is subject to public comment. If an order is substantially changed, an additional comment period is provided.

Applicable State and Federal Law: All legally applicable requirements and those requirements that Ecology determines are relevant and appropriate requirements.

Area Background: The concentrations of hazardous substances that are consistently present in the environment in the vicinity of a site which are the result of human activities unrelated to releases from that site.

Carcinogen: Any substance or agent that produces or tends to produce cancer in humans.

Chronic Toxicity: The ability of a hazardous substance to cause injury or death to an organism resulting from repeated or constant exposure to the hazardous substance over an extended period of time.

Cleanup: The implementation of a cleanup action or interim action.

Cleanup Action: Any remedial action, except interim actions, taken at a site to eliminate, render less toxic, stabilize, contain, immobilize, isolate, treat, destroy, or remove a hazardous substance that complies with cleanup levels; utilizes permanent solutions to the maximum extent practicable; and includes adequate monitoring to ensure the effectiveness of the cleanup action.

Cleanup Action Plan: A document which identifies the cleanup action and specifies cleanup standards and other requirements for a particular site. After completion of a comment period on a Draft Cleanup Action Plan, Ecology will issue a final Cleanup Action Plan.

Cleanup Level: The concentration of a hazardous substance in soil, water, air or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

Cleanup Process: The process for identifying, investigating, and cleaning up hazardous waste sites.

Consent Decree: A legal document, approved and issued by a court which formalizes an agreement reached between the state and potentially liable persons (PLPs) on the actions needed at a site. A decree is subject to public comment. If a decree is substantially changed, an additional comment period is provided.

Containment: A container, vessel, barrier, or structure, whether natural or constructed, which confines a hazardous substance within a defined boundary and prevents or minimizes its release into the environment.

Contaminant: Any hazardous substance that does not occur naturally or occurs at greater than natural background levels.

Enforcement Order: A legal document, issued by Ecology, requiring remedial action. Failure to comply with an enforcement order may result in substantial liability for costs and penalties. An enforcement order is subject to public comment. If an enforcement order is substantially changed, an additional comment period is provided.

Environment: Any plant, animal, natural resource, surface water (including underlying sediments), ground water, drinking water supply, land surface (including tidelands and shorelands) or subsurface strata, or ambient air within the state of Washington.

Exposure: Subjection of an organism to the action, influence or effect of a hazardous substance (chemical agent) or physical agent.

Exposure Pathways: The path a hazardous substance takes or could take form a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed or has the potential to be exposed to hazardous substances at or originating from the site. Each exposure pathway includes an actual or potential source or release from a source, an exposure point, and an exposure route. If the source exposure point differs from the source of the hazardous substance, exposure pathway also includes a transport/exposure medium.

Facility: Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly-owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft; or any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed or, placed, or otherwise come to be located.

Feasibility Study (FS): A study to evaluate alternative cleanup actions for a site. A comment period on the draft report is required. Ecology selects the preferred alternative after reviewing those documents.

Free Product: A hazardous substance that is present as a nonaqueous phase liquid (that is, liquid not dissolved in water).

Groundwater: Water found beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. In aquifers, groundwater occurs in sufficient quantities that it can be used for drinking water, irrigation, and other purposes.

Hazardous Sites List: A list of sites identified by Ecology that requires further remedial action. The sites are ranked from 1 to 5 to indicate their relative priority for further action.

Hazardous Substance: Any dangerous or extremely hazardous waste as defined in RCW 70.105.010 (5) (any discarded, useless, unwanted, or abandoned substances including, but not limited to, certain pesticides, or any residues or containers of such substances which are disposed of in such quantity or concentration as to pose a substantial present or potential hazard to human health, wildlife, or the environment because such wastes or constituents or combinations of such wastes; (a) have short-lived, toxic properties that may cause death, injury, or illness or have mutagenic, teratogenic, or carcinogenic properties; or (b) are corrosive, explosive, flammable, or may generate pressure through decomposition or other means,) and (6) (any dangerous waste which (a) will persist in a hazardous form for several years or more at a disposal site and which in its persistent form presents a significant environmental hazard and may affect the genetic makeup of man or wildlife; and is highly toxic to man or wildlife; (b) if disposed of at a disposal site in such quantities as would present an extreme hazard to man or the environment), or any dangerous or extremely dangerous waste as designated by rule under Chapter 70.105 RCW: any hazardous substance as defined in RCW 70.105.010 (14) (any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the characteristics or criteria of hazardous waste as described in rules adopted under this chapter,) or any hazardous substance as defined by rule under Chapter 70.105 RCW; petroleum products.

Hazardous Waste Site: Any facility where there has been a confirmation of a release or threatened release of a hazardous substance that requires remedial action.

Independent Cleanup Action: Any remedial action conducted without Ecology oversight or approval, and not under an order or decree.

Initial Investigation: An investigation to determine that a release or threatened release may have occurred that warrants further action.

Interim Action: Any remedial action that partially addresses the cleanup of a site.

Mixed Funding: Any funding, either in the form of a loan or a contribution, provided to potentially liable persons from the state toxics control account.

Model Toxics Control Act (MTCA): Washington State's law that governs the investigation, evaluation and cleanup of hazardous waste sites. Refers to RCW 70.105D. It was approved by voters at the November 1988 general election and known is as Initiative 97. The implementing regulation is WAC 173-340.

Monitoring Wells: Special wells drilled at specific locations on or off a hazardous waste site where groundwater can be sampled at selected depths and studied to determine the direction of groundwater flow and the types and amounts of contaminants present.

Natural Background: The concentration of hazardous substance consistently present in the environment which has not been influenced by localized human activities.

National Priorities List (NPL): EPA's list of hazardous waste sites identified for possible long-term remedial response with funding from the federal Superfund trust fund.

Owner or Operator: Any person with any ownership interest in the facility or who exercises any control over the facility; or in the case of an abandoned facility, any person who had owned or operated or exercised control over the facility any time before its abandonment.

Polynuclear Aromatic Hydrocarbon (PAH): A class of organic compounds, some of which are long-lasting and carcinogenic. These compounds are formed from the combustion of organic material and are ubiquitous in the environment. PAHs are commonly formed by forest fires and by the combustion of fossil fuels.

Potentially Liable Person (PLP): Any person whom Ecology finds, based on credible evidence, to be liable under authority of RCW 70.105D.040.

Public Notice: At a minimum, adequate notice mailed to all persons who have made a timely request of Ecology and to persons residing in the potentially affected vicinity of the proposed action; mailed to appropriate news media; published in the local (city or county) newspaper of largest circulation; and opportunity for interested persons to comment.

Public Participation Plan: A plan prepared under the authority of WAC 173-340-600 to encourage coordinated and effective public involvement tailored to the public's needs at a particular site.

Recovery By-Products: Any hazardous substance, water, sludge, or other materials collected in the free product removal process in response to a release from an underground storage tank.

Release: Any intentional or unintentional entry of any hazardous substance into the environment, including, but not limited to, the abandonment or disposal of containers of hazardous substances.

Remedial Action: Any action to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment, including any investigative and monitoring activities of any release or threatened release of a hazardous substance and any health assessments or health effects studies.

Remedial Investigation (RI): A study to define the extent of problems at a site. When combined with a study to evaluate alternative cleanup actions it is referred to as a Remedial Investigation/Feasibility Study (RI/FS). In both cases, a comment period on the draft report is required.

Responsiveness Summary: A compilation of all questions and comments to a document open for public comment and their respective answers/replies by Ecology. The Responsiveness Summary is mailed, at a minimum, to those who provided comments and its availability is published in the Site Register.

Risk Assessment: The determination of the probability that a hazardous substance, when released into the environment, will cause an adverse effect in exposed humans or other living organisms.

Sensitive Environment: An area of particular environmental value, where a release could pose a greater threat than in other areas including: wetlands; critical habitat for endangered or threatened species; national or state wildlife refuge; critical habitat, breeding or feeding area for fish or shellfish; wild or scenic river; rookery; riparian area; big game winter range.

Site: See Facility.

Site Characterization Report: A written report describing the site and nature of a release from an underground storage tank, as described in WAC 173-340-450 (4) (b).

Site Hazard Assessment (SHA): An assessment to gather information about a site to confirm whether a release has occurred and to enable Ecology to evaluate the relative potential hazard posed by the release. If further action is needed, an RI/FS is undertaken.

Site Register: Publication issued every two weeks of major activities conducted statewide related to the study and cleanup of hazardous waste sites under the Model Toxics Control Act. To receive this publication, please call (360) 407-7200.

Surface Water: Lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the state of Washington or under the jurisdiction of the state of Washington.

TCP: Toxics Cleanup Program at Ecology

Total Petroleum Hydrocarbons (TPH): A scientific measure of the sum of all petroleum hydrocarbons in a sample (without distinguishing one hydrocarbon from another). The "petroleum hydrocarbons" include compounds of carbon and hydrogen that are derived from naturally occurring petroleum sources or from manufactured petroleum products (such as refined oil, coal, and asphalt).

Toxicity: The degree to which a substance at a particular concentration is capable of causing harm to living organisms, including people, plants and animals.

Underground Storage Tank (UST): An underground storage tank and connected underground piping as defined in the rules adopted under Chapter 90.76 RCW.

Washington Ranking Method (WARM): Method used to rank sites placed on the hazardous sites list. A report describing this method is available from Ecology.