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UPPER COLUMBIA RIVER

Screening-Level Ecological Risk Assessment (SLERA)

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[1] Appendix E provides a list of comments received on the Draft UCR RI/FS Work Plan that are related to and addressed within this SLERA.

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ACRONYMS AND ABBREVIATIONS

ARAR	applicable or relevant and appropriate requirements
AWQC	ambient water quality criteria
B.C.	British Columbia
BERA	baseline ecological risk assessment
CCME	Canadian Council of Ministers of the Environment
CCT	Confederated Tribes of the Colville Reservation
COI	chemical of interest
COPC	chemical of potential concern
CSM	conceptual site model
CWQG	Canadian water quality guidelines
DDD	dichloro-diphenyl-dichloroethane (DDT metabolite)
DDE	dichloro-diphenyl-dichloroethene (DDT metabolite)
DDT	1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane
delta-BHC	delta-hexachlorocyclohexane
DL	detection limit
DOC	dissolved organic carbon
DOM	dissolved organic matter
DQO	data quality objective
Eco-SSL	ecological soil screening level
EPA	United States Environmental Protection Agency
ERA	ecological risk assessment
ESG	equilibrium partitioning sediment guideline
ESI	Expanded Site Inspection
HPAH	high molecular weight polycyclic aromatic hydrocarbon
HQ	hazard quotient
K_d	partition coefficient
K_{OC}	organic carbon partition coefficient
K_{OW}	octanol-water partition coefficient
LAET	lowest apparent effects threshold
LDPE	low-density polyethylene
LPAH	low molecular weight polycyclic aromatic hydrocarbon
NIOC	non-ionic organic chemical
NPDES	National Pollutant Discharge Elimination System
NPRI	National Pollutant Release Inventory

NURE-HSSR	National Uranium Resource Evaluation-Hydrogeochemical and Stream Sediment Reconnaissance
PAH	polycyclic aromatic hydrocarbon
PBDE	polybrominated diphenylether
PbS	galena
PCB	polychlorinated biphenyl
PCDD	polychlorinated dibenzo-*p*-dioxin
PCDF	polychlorinated dibenzofuran
POM	particulate organic matter
QA/QC	quality assurance and quality control
QAPP	quality assurance project plan
RI/FS	remedial investigation and feasibility study
RM	River Mile
SAB	Science Advisory Board
SEV	screening ecotoxicity value
SLERA	screening-level ecological risk assessment
SMDP	scientific management decision point
SO_2	sulfur dioxide
SPMD	semi-permeable membrane device
SQAP	sampling and quality assurance plan
SQG	sediment quality guideline
SQS	sediment quality standard
SVOC	semi-volatile organic compound
TAI	Teck American Incorporated
TCM	Teck Cominco Metals Ltd.
TEC	threshold effect concentration
TEF	toxicity equivalent factor
TEQ	total dioxins and furans
TRI	Toxics Release Inventory
TSS	total suspended solids
UCR	Upper Columbia River
USGS	U. S. Geological Survey
WQS	water quality standards
ZnS	sphaelerite

EXECUTIVE SUMMARY

This document presents the screening-level ecological risk assessment (SLERA) for the Upper Columbia River (UCR) Site remedial investigation and feasibility study (RI/FS). The primary objectives of the RI/FS are to investigate the nature and extent of contamination at the Site, to provide information to support baseline risk assessments for human health and the environment, and to develop and evaluate potential remedial alternatives for the Site.

This SLERA was conducted following the procedures described in U.S. Environmental Protection Agency's (EPA's) Ecological Risk Assessment Guidance for Superfund (USEPA 1997a). The primary purpose of the SLERA is to determine if there are adequate data to make a determination on the potential risks of environmental chemicals to ecological receptors. If adequate data are available for a certain environmental medium (e.g., sediment) and chemical of interest (COI), and risks are determined to be negligible, then no further assessment is warranted. If inadequate data are available or there is a potential for risk, then the COI requires further evaluation. Any potential risks to ecological receptors identified in the SLERA are not considered definitive and will be evaluated further in the later stages of EPA's eight-step ecological risk assessment process. The completion of the SLERA initiates the baseline ecological risk assessment (BERA) process that will provide a more detailed and focused assessment of the key components of potential ecological risks in the UCR.

This SLERA evaluated existing data for several groups of COIs in environmental media (i.e., surface water, porewater, sediment, soil and fish tissue) including metals/metalloids, nutrients, semi-volatile organic compounds, pesticides, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, polybrominated diphenylethers, and polychlorinated dibenzodioxins and dibenzofurans. Reported concentrations were compared to accepted toxicity benchmarks or thresholds. Very conservative statistical approaches were used to err on the side of caution when making risk-based decisions. Results of this analysis is a list of COIs that can be screened out from further evaluation in the BERA; and are presented by media in Table ES-1. COIs within each medium that are not listed in Table ES-1 (see Section 3.1 for a complete listing of all COIs) will be further evaluated in the BERA process according to EPA risk assessment guidance (USEPA 1997a).

1 INTRODUCTION

This document presents the screening-level ecological risk assessment (SLERA) for the Upper Columbia River (UCR) site[2] remedial investigation and feasibility study (RI/FS). The primary objectives of the RI/FS are to investigate the nature and extent of contamination at the Site, to provide information to support baseline risk assessments for human health (to be completed by the U.S. Environmental Protection Agency [EPA]) and the environment (to be completed by Teck American Incorporated [TAI]), and to develop and evaluate potential remedial alternatives for the Site. This SLERA represents the initial two steps of EPA's eight-step process for conducting ecological risk assessments (Figures 1-1a and 1-1b; USEPA 1997a). As noted in EPA's SLERA documentation (USEPA 2001a), a SLERA includes all the standard components of a risk assessment: 1) problem formulation, 2) exposure characterization, 3) effects characterization, and 4) risk characterization. These components are organized in the SLERA under two distinct steps. Step 1 includes a screening-level problem formulation and ecological effects characterization, and Step 2 includes a screening-level exposure estimate and risk calculation. Results of the SLERA process will be refined under Steps 3 and 4 of EPA's eight-step ecological risk assessment (ERA) process (the baseline ecological risk assessment [BERA]). The preparation of this SLERA benefited from recommendations made at a UCR workshop held on April 16 through 18, 2007 that included TAI, EPA, and the participating parties (i.e., the Confederated Tribes of the Colville Reservation, Spokane Tribe of Indians, Washington State Department of Ecology (Ecology), and the U.S. Department of the Interior).

Consistent with USEPA (1997a), Step 1 of this SLERA includes a preliminary conceptual site model (CSM) for the UCR that addresses the following elements:

- Environmental setting
- Contaminants known or suspected to exist in the UCR
- Contaminant transport and fate mechanisms
- Mechanisms of ecotoxicity associated with broad classes of contaminants and potential ecological receptors
- Potentially complete exposure pathways
- Preliminary assessment endpoints
- Screening-level ecotoxicity values.

[2] The UCR site as defined within the June 2, 2006 Settlement Agreement is the areal extent of hazardous substances contamination within the United States in or adjacent to the Upper Columbia River, including the Franklin D. Roosevelt Lake, from the U.S.-Canadian border to the Grand Coulee Dam, and those areas in proximity to the contamination which are suitable and necessary for implementation of response actions.

Step 2 of this SLERA addresses the following issues:

- Determination of screening-level exposure estimates
- Calculation of screening-level risk estimates
- Risk characterization and evaluation of uncertainties.

Any potential risks to ecological receptors identified in the SLERA are not considered definitive and will be evaluated further in later stages of EPA's eight-step ERA process, as various assumptions are refined and as additional site-specific data are collected and assessed. Nevertheless, the conclusion of the SLERA represents the first scientific management decision point (SMDP) specified in EPA ERA documents (Figures 1-1a and 1-1b). Specifically, based on the SLERA, selection of one of the following three decisions is made:

1. There are adequate data to conclude that ecological risks are negligible, and therefore there is no need for remediation on the basis of ecological risk.
2. The information is not adequate to make a decision at this point, and the ecological risk assessment process will continue to the problem formulation for the BERA.
3. The information indicates a potential for adverse ecological effects, and a more thorough assessment is warranted.

Should findings of the SLERA result in either decision number 2 or number 3 (see above), a refined problem formulation will be developed, with input from EPA. This initiates the BERA process and will provide a more detailed and focused assessment of the key components of potential ecological risks in the UCR. The BERA problem formulation will establish the goals, breadth, and focus of the assessment, based on refined assessment endpoints and potentially complete exposure pathways.

Development of this SLERA incorporates the approaches defined in the EPA's key ERA guidance documents (i.e., USEPA 1997a, 1998a, 2001a, and 2007a). In general, available information on physical, chemical, and biological characteristics of the UCR is integrated to produce a preliminary CSM that guides the initial steps of the risk assessment process. The following sections are organized according to the components of each of the two SLERA steps:

Step 1 - Screening-Level Problem Formulation and Ecological Effects Characterization

Section 2. Environmental Setting

Section 3. Conceptual Site Models

Section 4. Preliminary Screening Ecotoxicity Values

Step 2 - Screening-Level Exposure Estimate and Risk Calculation

Section 5. Existing Data Evaluation

Section 6. Screening-Level Exposure and Risk Evaluation

Section 7. Scientific Management Decision Point Evaluation

Section 8 presents reference information for the literature cited in the text.

The data examined in the SLERA are presented in appendices at the end of this report. The appendices are organized as follows: Appendix A Surface Water and Porewater Data, Appendix B Sediment Data, Appendix C Soil Data, and Appendix D Aquatic-Dependent Wildlife Screening Level Risk Assessment.

2 ENVIRONMENTAL SETTING

The first step in the screening-level problem formulation is the characterization of the study area. This section provides an overview of the geographic extent of the UCR Site and describes the physical characteristics in different portions of the Site.

2.1 OVERVIEW OF THE UCR SITE

The UCR Site (Map 2-1) is located wholly within Washington State and includes approximately 150 river miles (RMs) of the Columbia River, extending from the U.S.-Canadian border (RM 745) to Grand Coulee Dam (RM 596). Brought into service in 1942, Grand Coulee Dam is a multipurpose structure, providing flood control, irrigation, hydropower production, recreation, and fish and wildlife benefits (USEPA 2003a). Located immediately behind the dam is Franklin D. Roosevelt Lake, commonly referred to as Lake Roosevelt, a large reservoir extending approximately 140 RMs north of the dam at full pool and bordered by approximately 312 miles of publicly available shoreline (NPS 2006; USEPA 2003a). The Columbia and Pend Oreille rivers (which merge above the U.S.-Canadian border) represent the primary source of surface water to the UCR. The Spokane River and, to a lesser extent, the Colville, Kettle, and Sanpoil rivers also contribute flows to the system (Lake Roosevelt Forum 2006).

Ferry and Stevens counties border the UCR on the west and east, respectively, from the U.S.-Canadian border to approximately RM 640 (Map 2-1). The UCR from RM 640 to Grand Coulee Dam is primarily bordered to the south by Lincoln County and to the north by Ferry County. The Colville Indian Reservation borders the western and northern banks of the UCR from approximately RM 690 to Grand Coulee Dam, and the Spokane Indian Reservation borders the eastern bank of the UCR from approximately RM 650 to RM 640 and the northern bank of the Spokane Arm of Lake Roosevelt.

2.2 PHYSICAL CHARACTERISTICS

For the purposes of the UCR RI/FS, the UCR was subdivided into six river reaches (see Map 2-1) that correspond to relatively distinct physiographic units. Delineation of the various river reaches is generally consistent with those used in past U.S. Geological Survey (USGS) studies by Bortleson et al. (2001) and Cox et al. (2005). The six reaches were selected based on geomorphic features (e.g., channel width, sinuosity, confluence with major tributaries); general hydrodynamic characteristics (depth, location of the reservoir pool, riverbed characteristics, flow velocity); and expectations regarding the principal mechanisms for transport or deposition of particulate chemicals of interest (COIs). Descriptions of the six river reaches (Map 2-1) follow:

Reach 1 (U.S.-Canadian border at RM 745 to RM 730). This reach is consistent with the Northport Reach identified by the USGS (Bortleson et al. 2001; Cox et al. 2005). It begins at the upstream boundary of the Site and extends approximately to Onion Creek. This reach can be characterized as a swift river environment (i.e., riverine) that typically is unaffected by the reservoir.

Reach 2 (RM 730 to RM 711). This reach is consistent with the Upper Reservoir Reach identified by the USGS (Bortleson et al. 2001; Cox et al. 2005). It extends to the vicinity of Evans and Powell, Washington, and can be characterized as a narrow channel within the reservoir that has few shoreline embayments and irregularities.

Reach 3 (RM 711 to RM 699). This reach is consistent with the upper portion of the Middle Reservoir Reach identified by the USGS and consists primarily of Marcus Flats (Bortleson et al. 2001; Cox et al. 2005). Based on data collected to date, it appears that this reach can be characterized as a depositional area for coarse-grained sediments in the historical river channel and for fine-grained sediments in many of the shallower areas.

Reach 4 (RM 699 to RM 640). This reach is consistent with the lower portion of the Middle Reservoir Reach identified by the USGS and extends from a point upstream of the mouth of the Colville River to upstream of the mouth of the Spokane River (Bortleson et al. 2001; Cox et al. 2005). It can be further subdivided into Reaches 4a and 4b, with the boundary occurring at RM 676 near Inchelium and Gifford, where the width of the overall reach narrows considerably.

Reach 5 (RM 640 to RM 617). This reach is consistent with the upper portion of the Lower Reservoir Reach identified by the USGS, and it extends to above the mouth of the Sanpoil River (Bortleson et al. 2001; Cox et al. 2005). It can be characterized as a lacustrine (i.e., lake) environment.

Reach 6 (RM 617 to Grand Coulee Dam near RM 597). This reach is consistent with the lower portion of the Lower Reservoir Reach identified by the USGS, and it extends to the downstream boundary of the Site at Grand Coulee Dam (Bortleson et al. 2001; Cox et al. 2005). As with Reach 5, this reach can be characterized as a lacustrine environment.

2.3 HABITATS

Several general habitat types within the UCR are considered in the screening-level problem formulation: riverine, lacustrine, riparian, and upland. Riverine habitat includes the river banks and river bed in areas characterized by swift moving water generally located within Reach 1 and 2 of the UCR. Lacustrine habitats are characterized by slow moving water, including the littoral zone (i.e., the shoreline, which is influenced by varying reservoir levels), and the historical river channel. These habitats are located throughout Reaches 3, 4, 5, and 6 of the UCR. Riparian habitats are terrestrial areas located between the low pool and full pool waterlines or are mesic soils directly affected by UCR river water. These areas are also likely used by terrestrial and aquatic-dependent receptors at low pool. These habitats provide nesting and foraging areas for ecological receptors that may also forage in riverine, lacustrine, or upland habitats. Upland habitats include terrestrial areas located inland from the riparian habitats. Descriptions of the various habitats of the UCR will be expanded in the BERA Work Plan.

The riverine and lacustrine habitats of the UCR are used by a variety of aquatic ecological receptors (e.g., phytoplankton, zooplankton, periphyton, macrophytes, benthic macroinvertebrates, and fish), as well as aquatic-dependent terrestrial receptors that use the aquatic portions of the UCR for foraging or other activities (e.g., herbivorous, benthivorous, and piscivorous birds and mammals). The riparian and upland habitats around the UCR are used by a variety of terrestrial receptors, including plants, soil invertebrates, aquatic-dependent birds and mammals, and terrestrial birds and mammals (e.g., herbivores, omnivores, invertevores, and carnivores).

3 CONCEPTUAL SITE MODELS

A CSM provides a framework within which the complex suite of chemical, physical, and biological processes and interactions that prevail at a site can be viewed in a systematic and organized manner. For the UCR RI/FS, the CSM is intended to be a dynamic model that will be updated as additional information is collected. A CSM typically considers the sources of contaminants, the physical-chemical processes that control chemical fate (i.e., the physical transport and chemical reaction pathways that control concentrations of chemicals of interest (COIs) over time and space), and the exposure pathways that are needed to evaluate the potential for adverse effects (Figure 3-1).

In developing a CSM, the first consideration is the different sources that release COIs to the primary environmental media (i.e., air, soil, surface water, groundwater, and sediment). Once present in the environment, these chemicals are physically transported within and among the various media by processes that result in a range of chemical concentrations to which ecological receptors and/or humans are potentially exposed. In surface water and sediment, the distribution of these concentrations between the dissolved and particulate phases is relevant in characterizing exposures. However, at a more detailed level, chemical reactions may occur that lead to the formation of a variety of chemical species, particularly for metals/metalloids. These occurrences have important implications for assessing the bioavailability of chemicals to ecological receptors and subsequent potential for adverse effects. This information is critical to human health and ecological risk assessments where the potential exposure, effects, and risks to humans and ecological receptors are assessed and quantified.

The initial CSMs presented here broadly characterize two major aspects of the UCR: 1) the physical and chemical processes that influence the transport and fate of COIs at the Site, and 2) the relationship between sources (primary, secondary, and tertiary), exposure pathways, and receptors (both human and ecological). In the latter case, the primary focus is on ecological receptors, and the CSM for human health is being developed by EPA. At this stage of the process, the CSMs are designed to be inclusive (i.e., screening-level CSMs). As additional information is collected and evaluated, these CSMs will be refined and adapted to the varying sets of processes and conditions that affect the different reaches of the UCR.

3.1 ASSESSMENT OF CHEMICAL SOURCES

This section provides an overview of the known and potential chemical sources in the vicinity of the study area. The information presented here is intended to be a summary; it is not a definitive discussion of all possible sources of chemicals to the study area.

3.1.1 Mine, Mill, and Smelting Operations

Ore mining and mineral processing has been occurring in the UCR region, in both the U.S. and Canada, since at least the late 1800s. Most of the operations in the U.S. took place in Stevens and Ferry counties (Orlob and Saxton 1950; Wolff et al. 2005). Mining activities in the drainage basin also occurred in the Metaline mining district in Pend Oreille County, Washington. As part of the Upper Columbia River Expanded Site Inspection conducted by EPA in 2001 and 2002, EPA collected sediment samples and visited a number of U.S. mine and mill sites in the northern portion of the study area, including mines and mills along tributaries to the UCR, plus several additional mines and mills located along the Pend Oreille River to the east.

The expanded site investigations (see list below) and the Phase 1 remedial investigation (USEPA 2006a) documented sediment contamination along the Upper Columbia River Site from the U.S.-Canada border to the Grand Coulee Dam. Based on these results, the EPA concluded that both the smelter in Trail, British Columbia, and the former Le Roi Smelter in Northport, Washington, are sources of contamination to the UCR Site; however, the Trail smelter was identified as the primary source of contamination. The mines and mills along the tributaries to the UCR were not identified as current sources of contamination to the Site[3]. The mines and mills in the drainage basin may be investigated in the future if anomalous and significant contaminant concentrations (relative to risk) are found at confluences of tributaries with the UCR and a potential upstream source is suspected. With the exception of the Spokane River, Phase 1 sediment sampling by EPA (USEPA 2005a) near the mouth of selected major UCR tributaries did not identify the presence of notably elevated COI concentrations indicative of major watershed sources of contamination from historical mine and mill sites.

Summaries of the findings and recommendations of the EPA expanded site investigation are provided in the following reports:

- USEPA (2001b)—*Sediment Investigation Trip Report, Upper Columbia River/Lake Roosevelt Expanded Site Inspection. December 2001. Prepared by Roy F. Weston Inc. for EPA Region 10, Seattle, WA*
- USEPA (2002a)—*Preliminary Assessments and Site Investigations Report, Lower Pend Oreille River Mines and Mills, Pend Oreille County, Washington. April 2002. Prepared by Ecology and Environment, Inc. for EPA Region 10, Seattle, WA*

[3] Some of these mines and mills had localized contaminant concentrations that met EPA requirements for time-critical and non-time-critical removal actions. The following sites have been addressed under EPA's removal program: Bonanza Mill, Le Roi Smelter, Colville Post and Pole, and Cleveland Mine and Mill. The Josephine Mill No. 1, Grandview Mine and Mill, and Anderson-Calhoun Mine and Mill are currently being addressed under EPA's removal program.

- USEPA (2002b)—*Preliminary Assessments and Site Inspections Report, Upper Columbia River Mines and Mills, Stevens County, Washington. October 2002. Prepared by Ecology and Environment, Inc. for EPA Region 10, Seattle, WA*
- USEPA (2003a)—*Upper Columbia River Expanded Site Inspection Report, Northeast Washington. March 2003. Prepared by Ecology and Environment, Inc. for EPA Region 10, Seattle, WA*
- USEPA (2004a)—*Hecla Knob Hill Mine Site Inspection Report, Ferry County, Washington. July 2004. Prepared by Weston Solutions, Inc. for EPA Region 10, Seattle, WA*
- USEPA (2004b)—*South Penn Mine Site Inspection Report, Ferry County, Washington*. *September 2004. Prepared by Weston Solutions, Inc. for EPA, Region 10, Seattle, WA*
- USEPA (2004c)—*Mountain Lion Mine Site Inspection Report, Ferry County, Washington. September 2004. Prepared by Weston Solutions, Inc. for EPA, Region 10, Seattle, WA.*

The following subsections provide summary information for the Teck Cominco Metals Ltd. facility in Trail, British Columbia, and the former Le Roi Smelter in Northport, Washington.

3.1.1.1 Trail, British Columbia, Teck Cominco Facility

The Teck Cominco facility in Trail, British Columbia, is located on the Columbia River approximately 10 miles upstream from the U.S.-Canada border. Smelter operations have been underway in Trail since 1896 (G3 Consulting 2001a). The original facilities were built in 1896 to smelt copper and gold ores from the Rossland Mines (G3 Consulting 2001b). Onsite operations were designed to separate gold and copper thermally from gold ores mined. At that time, roasting technology was crude and limited to the heap method. The ore was piled up with cordwood and limestone intermixed and set aflame. With such crude processes, the smelter was capable of producing a matte of 50 percent pure copper (i.e., industrially worthless until further refined), while the lead, which was prevalent within local ores, could not be extracted. As a result, further refining was required at Heinze's refinery in Butte, Montana (www.crowsnest-highway.ca). The Spokane Falls & Northern Railway company was reluctant to transport the copper matte and offered an alternative to surrounding area mining companies willing to construct a smelter in Northport, Washington. The owners of the Le Roi Gold Mining Company of Spokane registered in the state of Washington in August 1897, and the Le Roi smelter was operational by February 1898 (www.crowsnest-highway.ca).

The resulting competition (i.e., lack of ore and manpower) temporarily halted smelting operations in Trail. On March 1, 1898, the Canadian Pacific Railway negotiated the purchase of the Trail smelter and associated railway rights and immediately began modernization activities. By July 1898, the facility, under the name Canadian Smelting

Works, was tied into the West Kootenay power grid and by December of that year smelting operations were underway (Cominco 2000). As the number of lead mines within the surrounding area (i.e., Canada and the western U.S.) grew, the decision was made in 1901 to broaden the smelter's base and include lead furnaces. The new furnaces were unsophisticated, however, and until 1902 the resulting impure bullion was transported to the American Smelting and Refinery Company's plant in Tacoma, Washington, for further processing. With the development of the Betts electrolytic process in 1902, the facility was able to produce pure lead, fine silver, and gold. Recognizing the value of securing a source of ore and concentrate, Canadian Smelting Works began working toward the consolidation of surrounding area mines with the smelting facility. This consolidation process culminated in 1906, and the Canadian Smelting Works became known as the Consolidated Mining and Smelting Company of Canada (www.crowsnest-highway.ca). Zinc production began in 1916. By 1925, the facility consisted of a complex of structures housing a lead plant, an electrolytic zinc plant, a foundry, a machine shop, and a copper-rod mill (www.crowsnest-highway.ca). Fertilizer plants were built at the Trail smelter in 1930, facilitating the production of both nitrogen-and phosphorus-based fertilizers (MacDonald 1997). The facility constructed and operated a heavy water plant from 1944 to 1955 (www.crowsnest-highway.ca).

The smelter was officially renamed Cominco in 1966 (G3 Consulting 2001b). In addition to lead, zinc, cadmium, silver, gold, bismuth, antimony, indium, germanium, and arsenic, the Cominco facility also produced sulfuric acid and liquid sulfur dioxide. Ammonia, ammonium sulfate, and phosphate fertilizers were produced at the plant until August 1994, at which time production of the phosphate-based fertilizer was terminated (MacDonald 1997).

Major current operations at the facility include primary smelting of zinc and lead concentrates and secondary smelting for production of a variety of metal products (e.g., antimony, bismuth, cadmium, cobalt, copper, germanium, gold, indium, mercury, silver, and thallium), arsenic products, granular and crystallized ammonium sulfate fertilizers, sulfur, sulfuric acid, sulfur dioxide (SO_2), and ferrous granules (i.e., granulated slag) (USEPA 2003a).

While information regarding releases at the Teck Cominco Trail facility prior to the 1970s has not been provided, known discharges and emissions from the Trail facility, historic and current, that have relevance to the UCR Site include but are not limited to:

- Discharges of granulated slag to the Columbia River
- Liquid effluent discharges to the Columbia River
- Atmospheric emissions (stack and fugitive)

- Potential discharges to the Columbia River via groundwater migration from under the smelter and from surface water runoff
- Accidental spills and releases to the Columbia River from Trail facility operations.

These emissions are described in the following subsections.

Slag

Granulated fumed slag is a byproduct of the smelting furnaces at the Trail facility. Slag is the primary solid-phase byproduct that was discharged directly to the Columbia River. Slag consists predominantly of sand-sized glassy ferrous granules which contain various quantities of trace and major metals. Potential environmental effects of slag discharged to the river include both chemical effects (increased metal loads, potential bioaccumulation, toxicity problems in biota) and physical effects (scouring of plants and animals from river substrates, damage to soft tissues of aquatic insects and fish, smothering of habitat) (G3 Consulting 2001b; Nener 1992; WDOH 1994; CRIEMP 2005; Cominco 1997).

According to a summary report prepared by consultants to Cominco, the routine discharge of slag into the Columbia River was discontinued in mid-1995. Prior to this, up to 145,000 tons of slag had been discharged annually. EPA has estimated at least 23 million tons of granulated fumed slag was discharged into the Columbia River (USEPA 2006a). Currently, Cominco slag is stockpiled onsite while awaiting purchase (G3 Consulting 2001a; MacDonald 1997) or is sold and transported offsite (TCAI 2008) under the product name “ferrous granules.” Sales to the cement industry are the primary outlet for barren slag from Trail Operations. However, there are many sources of iron available to the cement industry, and this competitive market limits the ability of Trail Operations to sell all the barren slag it produces. For the past few years, production has exceeded sales of ferrous granules, and this has led to a net accumulation of the material at Trail Operations. In 2001, to alleviate an inventory backlog created when the specification for cement industry customers became more stringent, Teck Cominco applied for and was granted permission to transport up to 225,000 tonnes of barren slag material to the tailings pond at Teck Cominco's Kimberly Operations. This tailings pond, which spans approximately 140 acres (63 hectares), arose from many decades of milling and flotation of ores from Kimberley's Sullivan mine. In 2003, approximately 58,000 tonnes of off-specification barren slag were moved to Kimberley by truck. At the end of 2003, approximately 180,000 tonnes of ferrous granules were stored in Trail awaiting sale to customers (TCM 2003).

Effluent

Historically, wastewater effluent from the Cominco facility has been discharged to the Columbia River through five outfalls: one outfall from the Warfield Fertilizer Operation, three submerged outfalls from the metallurgical plants, and one from the slag launder system. The average discharges for dissolved metals from 1980 to 1996 were as high as 18 kilograms per day (kg/d) of arsenic, 62 kg/d of cadmium, 200 kg/d of lead, and 7,400 kg/d of zinc. Additionally, fertilizer plant operations contributed up to 4 kg/d of total mercury and 350 kg/d of dissolved zinc (Cominco 1997).

Stack Emissions

Atmospheric sulfur emissions historically have been a significant component of facility stack emissions, due to the sulfide-bearing ores (e.g., galena [PbS] and sphaelerite [ZnS]) that make up the primary input (i.e., feedstock) to the Trail facility. Historically, the Cominco smelter discharged sulfur dioxide into the air through a brick stack 409 feet high. The air pollution traveled south and remained trapped in the northern Stevens County, Washington, Columbia River Valley. In 1925, the Trail Smelter increased the discharge of sulfur dioxide into the air from 4,700 to 10,000 tons a month. The citizens of Northport complained that sulfur pollution was threatening their health and environment. They formed a “Citizens Protective Association” of farmers and property owners who sent letters of protest to politicians in both Ottawa and Washington. The matter, known as the Trail Smelter Case of 1926 to 1934, was the first case of air pollution brought before an international tribunal (Northport Pioneers 1981).

The Canadian government suggested that the fumes problem should be placed on the agenda of the International Joint Commission. The International Joint Commission did not consider the case until 1928. In 1931, the International Joint Commission recommended that the Canadian government stop polluting the atmosphere and pay damages assessed against the corporation in the amount of $350,000. The U.S. government, speaking for all of the claimants, refused to accept the $350,000 award, and asked that the case be reexamined by an arbitration tribunal. In 1935, President Franklin D. Roosevelt formally announced that the Treaty of Arbitration was in effect (Northport Pioneers 1981). The tribunal was constituted under, and its powers derived from and limited by, the Convention between the United States of America and the Dominion of Canada signed at Ottawa in 1935, also termed “The Convention” (Cloutier 1941). In 1938, the appointed members of the tribunal announced their decision assessing an additional $78,000 in damages for injuries sustained from 1932 to 1937. They also decided that a regime or measure of control should be applied to the operations of the Trail Smelter and should remain in full force unless and until modified in accordance with the amendment or suspension of the regime. The tribunal also decided that no damage caused by the Trail Smelter in Washington State occurred with respect to the period from October 1, 1937, to October 1, 1940 (Cloutier 1941).

Reductions in SO_2 emissions were achieved in 1931 due to the construction of the Warfield Fertilizer plant, which absorbed and scrubbed SO_2 from stack emissions for the production of fertilizer, and the termination of copper smelting that year.

The first air emission permits were issued to the facility on September 9, 1975, and covered all onsite operations at that time (i.e., fertilizer, lead, and zinc operations). Current permits require continuous monitoring of SO_2, particulates, lead, zinc, and cadmium in several stacks. In addition, the facility monitors ambient air quality at stations within and around the facility and the surrounding area. Each station is monitored for SO_2, total particulate matter, and trace metals. Active facility permits include several stack emissions monitoring requirements (e.g., continuous monitoring of SO_2, particulates, lead, zinc, and cadmium). Other permits addressing air, waste storage, and landfills have been issued by the B.C. Government to the facility.

In 1977, Cominco began a modernization program consisting of numerous projects that continued through the 1980s and 1990s. Some examples of these projects included controlling spills and dust, building a new lead smelter, installing air emissions controls, eliminating discharge of slag, replacing the phosphate plant with an ammonium sulfate fertilizer production operation, and reducing effluent discharges.

The Washington State Department of Health (WDOH 1994) concluded from air quality simulation modeling performed by the State of Washington Department of Ecology that Trail Smelter pollutants could move down the Columbia River Valley and produce moderately high (24-hour average) pollutant concentrations in the Northport area. In addition, in 2003, the Area-wide Soil Contamination Task Force (ASCTF) estimated the extent of lead and arsenic contamination that might be associated with air emissions from the Trail and Le Roi smelters (ASCTF 2003).This estimate was based on observations of smoke and the maximum extent of injury to trees from sulfur dioxide documented in 1929. The map developed at that time shows the area of soil potentially impacted by air emissions to include the UCR Site as far south as Kettle Falls. The defined area of potential impact from both smelters is influenced by the local topography. The deep valley of the Columbia River where the smelters are located provides a channel that influences air dispersion, in part by limiting wind direction along the axis of the river, with the prevailing winds carrying smoke from Trail down the Columbia River valley past Northport.

Groundwater Discharge

In 2001, Cominco initiated a groundwater investigation of the Trail Smelter Facility as part of their ongoing work to inventory and characterize potential sources of contamination to the environment. The purpose of the investigation was to obtain an estimate of the quantities of dissolved metals and other substances discharging into the Columbia River, via groundwater, from under the smelter. The investigation consisted of the installation and testing of 18 groundwater monitoring wells at eight locations, including five along the bank of the Columbia River. The investigation found evidence of groundwater contamination (Cominco 1998). Additional work conducted as part of the groundwater investigation at the smelter site included installation of five more monitoring wells in 2002 to allow a more complete assessment of the contaminant loadings to the Columbia River. Additionally, regional groundwater investigations were begun to identify surface water drainages in the Cominco area that may be affected by contaminated groundwater discharge (TCM 2003). It is not known to what degree this contaminated groundwater discharge may impact surface water quality in the Columbia River.

Electronic-waste Management

In 2005, a pilot-scale study was conducted at the Trail facility to assess the feasibility of initiating an electronic waste (e-waste) recycling program, wherein the plastics and woods associated with e-waste would serve as reducing agents for the fuming furnace. The plastics and wood are consumed in the furnace as chemical reductants, liberating carbon dioxide and water vapor. In addition, and critical to the overall processing of e-wastes, is the effective treatment of plastic components because these materials may form organic pollutants such as dioxins/furans, polycyclic aromatic hydrocarbons (PAHs), and polybrominated diphenyl ethers (PBDEs) when burned. The pilot-scale study was conducted over a period of 13 days at the No. 2 slag fuming furnace associated with onsite lead operations.

Strict environmental monitoring was conducted at all potential discharge points, including stacks (gases and particulates), effluents (C-III outfall), and ambient air. Monitoring results showed that emissions of regulated persistent organic pollutants were comparable to baseline levels. Specifically, emissions from the No. 2 fuming furnace were lower than Environment Canada's level of quantification for dioxins/furans (i.e., 32 picograms [pg] toxicity equivalent [TEQ] per dry standard cubic meter [dsm^3]), while the production-based release of PAHs was significantly lower than the National Pollutant Release Inventory (NPRI) reporting threshold. Given the success of pilot-scale studies, the British Columbia Ministry of Environment issued a one-year temporary permit to conduct an e-waste recycling program. Based on the positive environmental performance of the one-year program, the British Columbia Ministry of Environment will issue a new permit to the Trail facility for e-waste recycling.

Accidental Spills and Releases, Permit Exceedances, and Variances

The Trail facility has historically and recently experienced a number of accidental spills into the Columbia River. According to records obtained from Environment Canada's spilltracker database and the British Columbia Ministry of Environment, chemicals released since 1983 include a variety of metals and metalloids, nutrients, slag, suspended soils, and oils. Information about spills prior to 1983 is not readily available, but releases of similar (and potentially additional) chemicals are expected to have occurred periodically over the history of Trail operations. Information regarding permit limit exceedances and variances is maintained by regulatory agencies in Canada.

Other Potential Teck Cominco Trail Facility Sources

Other potential chemical sources associated with the Trail facility include its materials management operations, PCBs, and other nonpoint sources (e.g., releases via Stoney Creek), which are discussed below.

Materials Management: Of the 14 permits currently held by the Trail facility, four are related to management and storage of solid materials (e.g., slag and arsenic) that may be related to COIs for the UCR Site.

PCBs: Since the late 1970s, PCB equipment (e.g., electrical transformers) has been phased out and the equipment has been destroyed at approved hazardous waste management facilities such as the Swan Hills Treatment Centre in Alberta. All PCB equipment and/or PCB-containing wastes have been removed from the Trail facility. As a result, it is PCB-free and the existing permit (Permit No. 08443) will no longer be required nor renewed. Further investigation may be required to identify information on PCB releases and disposal at the Trail Facility.

Non-point Sources: Stoney Creek, located just upstream of the Cominco smelter near RM 755, has also contributed chemicals to the Columbia River (Teck Cominco 1998). Cominco's 1997 environmental report identified Stoney Creek as a significant contributor of contaminants to the Columbia River (Cominco 1998). MacDonald (1997) identifies Stoney Creek as the single largest source of dissolved arsenic, cadmium, and zinc to the Columbia River. Stoney Creek concentrations in 1995 exceeded the permitted levels for the Trail facility's metallurgical sewers. The Stoney Creek watershed is affected by Teck Cominco's past waste dumping and storage activities, which contributed metal-laden drainage from seepage and surface runoff. This stream also received runoff from the urban area and a municipal landfill. Water and sediment in Stoney Creek contained elevated arsenic, cadmium, copper, lead, and zinc levels compared to other tributaries prior to 1997. In 1997 and 1998, a seepage collection system along the banks of Stoney Creek was designed and constructed to redirect drainage containing zinc, cadmium, and arsenic to the effluent treatment plant. Stoney Creek metal levels in both water (loads, calculated as concentration multiplied by flow) and sediment were reportedly reduced substantially between 1995 and 1999, with the exception of copper levels, which increased in sediment (G3 Consulting 2001b). In addition, in 2003 and 2005, two significant sources of contaminant seepage into Stoney Creek were addressed. A closed industrial landfill was capped in 2003 with an engineered, low-permeability, composite clay and synthetic membrane; in 2005, a permanent storage system was created for arsenic-contaminated wastes using a low-permeability double liner at the base of the material and membrane cap. These two source control measures have improved water quality within Stoney Creek. For example, average zinc concentrations in Stoney Creek declined from 26 milligrams per liter (mg/L) in 1995 to 6.2 mg/L in 1999; average arsenic concentrations declined from 2.0 to 0.9 mg/L during the same period, and copper concentrations from 16 to 6.3 micrograms per liter (μg/L) (Table I.30 in Golder Associates 2003).

Possible contributions of chemical from other non-point sources on the Trail facility have not been evaluated. However, surface soil, stormwater, and groundwater data from the facility are available for review.

3.1.1.2 Le Roi/Northport Smelter

The Le Roi/Northport Smelter (Le Roi) is a former smelter located approximately 7 river miles downstream of the U.S.-Canadian border in Northport, Washington. The Le Roi Smelter property encompasses approximately 32 acres and is accessed from the Northport-Waneta Road via Highway 25 (SAIC 1997). The former smelter operations area occupies approximately the eastern two-thirds of the site, and a former lumber mill occupies the remaining portion. The smelter buildings, which are no longer standing, included the furnace building, the roaster building, and the crusher and ore building (Heritage 1981).

In 1892, D.C. Corbin, owner of the Spokane Falls and Northern Railroad, built a rail line to reach the town of Northport, then consisting of a lumber mill and several tents. The railroad tracks were located adjacent to the Le Roi site. In 1896, Mr. Corbin donated the site to the Le Roi Mining and Smelting Company for the construction of the Breen Copper Smelter. In 1896, the Breen Copper Smelter began refining copper and gold ores from mines in northeast Washington, as well as copper ore from B.C., for the Le Roi Mining and Smelting Company. In 1901, the Le Roi Company smelting operations reorganized with the Red Mountain smelting operations to become the Northport Smelting and Refining Company (Northport Pioneers 1981).

The copper and gold ore was processed by heap roasting, which involves open burning of the raw ore prior to placing it in a furnace. A slag brick platform was used for the initial burning, or heap roasting, of the ore. Burned ore was placed in a furnace that produced iron and slag waste. Some of the waste was formed into slag bricks that were then used as construction materials for onsite as well as offsite buildings. The gold and copper concentrate was shipped off the site by rail for further refining. At the peak of operation, the Le Roi Smelter processed 500 tons of ore per day; operations were suspended in 1909. In 1914, the Le Roi Smelter reopened to process lead ore from Leadpoint, Washington, to meet government demand during World War I. Lead smelting operations during this period produced up to 30 tons per day of airborne sulfur emissions (Weston 2004). Slag was the main byproduct of smelting operation at the site. This material was sorted in piles on the site or discharged directly to the river via underground launders (USEPA 2004d) . Operations ceased permanently in 1921, and the smelter site remained inactive until 1953. The furnace, roaster, and crusher and ore buildings were removed from the site during this period of inactivity. From 1953 to 2001, the western portion of the site was used as a lumber mill; no wood treatment or chemical use was reported for this period of operation (Weston 2004).

Emissions from the Le Roi facility that have potential relevance to the UCR Site include:

- Discharges of slag to the Columbia River
- Drainage to the Columbia River from seepage and surface runoff of materials stored onsite
- Stack emissions
- Effluent discharge and accidental spills.

From 1993 to 2004, the EPA conducted preliminary assessments, site inspections, and a removal site evaluation. Northport residential and commercial properties were identified in 2003 and 2004 for a removal action. Removal assessment activities included sampling of residential and commercial properties in and around the Northport community, sampling of public areas, and collecting drinking water samples from residents. All sampling results were compared to regulatory levels provided by the State of Washington Department of Ecology for response actions conducted at Northport (Weston 2005).

A removal action was conducted on the Le Roi property and in the town of Northport by EPA in 2004 (Weston 2004, 2005). Contaminated soils were consolidated at the smelter site (11-acre area), covered with a polyethylene sheet and clean soil, and vegetated.

3.1.2 Additional Potential Chemical Sources

As part of the remedial investigation, the potential for contaminants of concern reaching the Upper Columbia River Site from the industrial and non-industrial discharges identified below may also be investigated if significant anomalous occurrences or distributions of chemicals are detected during the course of the RI/FS at concentrations that exceed background or risk-based screening levels.

3.1.2.1 Pulp Mill Operations

The Zellstoff Celgar Ltd. (Zellstoff) bleached kraft pulp mill is located in Castlegar, B.C., approximately 30 river miles upstream of the U.S.-Canada border. Prior to Zellstoff's acquisition of the pulp mill in February of 2005, the pulp mill was operated by the Celgar Pulp Company. From 1961 until mid-1993, the mill primarily used chlorine in its bleaching process. The pulp mill discharged effluent containing chlorinated organic compounds, including dioxins and furans, into the Columbia River (USGS 1994). As a result of health implications of dioxin and furan levels in fish downstream of pulp mills, the provincial and federal governments initiated fish sampling in the Columbia River from 1988 to 1990 as part of a nationwide survey. Levels in a variety of species downstream of the Celgar Pulp Company, including rainbow trout, showed low or normal background levels of contamination, with the exception of whitefish, which showed levels above background. In response to these findings, a consumption advisory was issued by the local Medical Health Officer recommending that consumers of whitefish caught in the vicinity of the area of Hugh Keenlyside Dam to the U. S.Canada border limit their consumption to one meal per week. The 1990 whitefish consumption advisory prompted voluntary changes to the mill's bleach plant to reduce chlorinated furan (i.e., 2,3,7,8-tetrachlorodibenzofurans) effluent discharges into the Columbia River (CRIEMP 2005).[4]

As a result of pulp process effluent discharges, a fiber mat formed downstream of Celgar Pulp Company's outfalls. Fiber mats often form when effluent containing wood debris and pulp fibers is discharged into an aquatic environment and then settles to the substrate and accumulates. While fiber mats are readily degraded by microorganisms (producing ammonia and hydrogen sulfide byproducts), they often contain persistent chemicals from pulp production and bleaching processes. Persistent chemicals documented in other fiber mats have included PAHs, tetrachlorodibenzo-p-dioxins, and heavy metals (USGS 1994).

Plant modernization in 1994 included the installation of a chlorine dioxide bleach plant and a secondary treatment system for process effluent. Following modernization of the mill, discharges of chlorinated organic chemicals were reduced from 2,755 to 330 kg/d, and polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) were undetectable in the waste stream (USEPA 2004e). A fiber and fly ash recovery system was also implemented that subsequently led to the reduction of the fiber mat located downstream of the process outfalls, and the recovery boiler previously responsible for high reduced-sulfur emissions was decommissioned, resulting in lower sulfur releases and improved air quality (USEPA 2004e). The Zellstoff mill has reported annually to the NPRI since at least 1994; reported releases include surface water discharges of ammonia and air releases of chlorine, chlorinated compounds, methanol, and sulfuric acid (Environment Canada 2007).

3.1.2.2 EPA Toxics Release Inventory Sites

The Toxic Release Inventory (TRI) is a public database dating from 1988 that contains information regarding toxic chemical releases, transfers, and other waste management

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[4] The 1990 fish advisory in Canada was lifted in 1996. Fish advisories have also been issued in the U.S. for Lake Roosevelt. The current Lake Roosevelt advisory applies to women who are or could become pregnant, women who are nursing, and small children. The advisory recommends limiting the consumption of walleye, burbot, and largescale sucker from Lake Roosevelt. The advisory for Lake Roosevelt is in addition to a state-wide advisory that recommends limiting consumption of largemouth and smallmouth bass, and refraining entirely from the consumption of northern pikeminnow because of mercury contamination in these species. Current advisory information is available at www.doh.wa.gov/fish.

activities associated with U.S. facilities. Releases by industries over the reporting period have included air and/or land releases of metals, ammonia, chlorine compounds, and volatile compounds.

3.1.2.3 Water Quality Discharge Permitted Sites

Additional releases of COIs may have occurred or continue to occur as industrial stormwater or wastewater discharges to the UCR and its tributaries. Discharges to surface waters are regulated by the Clean Water Act. The administration of discharge permits through the National Pollutant Discharge Elimination System (NPDES) program in Washington has been delegated to the State of Washington Department of Ecology. Ecology’s Water Quality Permit Life Cycle System (WPLCS) database contains information on all facilities with regulated discharge permits, which stipulate specific limits and conditions of allowable discharge that may impact surface water quality. Discharges from some permitted sites are also reported to the TRI, discussed above. Discharge water quality monitoring results for current permits are available from the State of Washington Department of Ecology but are not presented here.

3.1.2.4 Municipal and Non-point Sources

A variety of municipal and non-point sources are potentially relevant to the UCR Site, including:

- Municipal wastewater treatment plants that discharge into the Colville, Sanpoil, Spokane, and Pend Oreille rivers
- Municipal wastewater treatment plants in Castlegar and Trail that discharge into the Columbia River
- Point and non-point sources along the Spokane River
- Agricultural runoff of nutrients and pesticides to surface water.

3.2 PHYSICAL/CHEMICAL CONCEPTUAL SITE MODEL

The physical/chemical UCR CSM focuses on physical and chemical transport and fate pathways. Transport and fate of chemical stressors are governed by hydrodynamic mechanisms and chemical reactions. The following sections discuss the physical-chemical transport and reaction pathways as they relate to the CSM, and they are graphically presented in Figure 3-2. The CSM represents the consensus results of collaborative meetings between TAI, EPA and the Participating Parties that were held in a workshop format on April 16 to 18, 2007. The consensus CSM includes all processes of potential importance agreed to at the April workshop. The relative importance of different processes described in the consensus CSM may differ among reaches and may also have greater or lesser importance within a reach, depending on the specific characteristics of that reach.

3.2.1 Hydrodynamic/Fluid Transport

Hydrodynamic transport in the UCR is affected by upstream and tributary inflow rates, which are dependent on watershed hydrology, and the operation of numerous upstream dams, as well as Grand Coulee Dam at the downstream end of the UCR. Water may also enter or leave the UCR through groundwater seepage or drainage and may also be transported in the interfacial bed area via hyporheic (interstitial) flow. Once particulate and dissolved COIs enter the UCR, they are redistributed via the hydrodynamic transport processes of advection and turbulent mixing; these processes result in the dilution and dispersion of these materials within the system (Figure 3-2). Hydrodynamic processes also influence the dynamic coupling between sediment and overlying surface water. The frictional interaction between moving fluid and riverbed roughness induces boundary shear stresses and steep vertical gradients of turbulent mixing near the bottom that regulate particle deposition and resuspension (i.e., scour). Near-bottom turbulence also regulates concentration gradients near the riverbed, altering the diffusional exchange of dissolved COIs between sediments and surface waters. Advective processes in the bed, such as interactions with groundwater and hyporheic flow, can also impact the exchange of dissolved COIs between sediments and surface waters.

3.2.2 Sediment Transport

Sediment transport is often an important fate-controlling process for COIs because of the tendency of many dissolved organic chemicals and metals to adsorb to sediment particles and concomitantly be transported downstream (Figure 3-2). Due to the resulting close ties between COIs and particulate matter (i.e., the sorbed and mineralized fractions), sediment transport is an integral aspect of chemical transport and fate analysis for COIs.

A unique feature of the UCR that differs from many other aquatic environments is that fluid velocities in the upstream reaches are sufficient to induce the movement of relatively large particles (e.g., granulated slag) as bedload material, in addition to transporting COIs associated with smaller particles and detritus as suspended load. Thus, particle size classes and their vertical distribution during transport are important elements for consideration to understand the distribution of COIs within the UCR. In some instances, size-dependent particle deposition can concentrate COIs in localized regions of the riverbed where relatively low boundary shear stresses persist (e.g., within sheltered embayments and downstream from outcroppings), thereby counteracting dispersion and dilution normally associated with hydrodynamic transport. Conversely, these deposits may also be impacted by the accumulation of uncontaminated native solids that originate from upstream and tributary inputs, bank erosion, and landslides.

In the UCR, sediment particles may be transported into or out of the system by wind-driven (aeolian) transport. Particulates may be carried into the system by aerial deposition over the water surface. Materials exposed during periods of drawdown may be transported from the dried bed back into the water column or onto adjacent land areas. Similarly, when sediments in nearshore areas are exposed during periods of drawdown, those sediments may dry out (desiccate) over time and, when dry, may be eroded by winds. COIs associated with particles transported by the wind are also transported.

Solids may also be produced within the system via autochthonous production. Phytoplankton convert inorganic carbon from the water column to particulate organic matter. This particulate organic matter can bind many COIs and carry them to the bed if they settle from the water column.

In the UCR, hydrodynamic and sediment transport processes vary on a number of relevant space and time scales due to river geomorphology, seasonal patterns of precipitation and snowmelt, water-level regulation, etc. These various factors are believed to have influenced the historical distribution of COIs in the UCR system and are expected to continue to influence their redistribution in the future. For example, both lower pool elevations and higher flows will increase current velocities in the UCR. Maximum current velocities will likely occur with the period of high-flow conditions that typically occur in the spring, at the same time that relatively low-stage conditions reduce the cross-sectional area of the stream. Maximum velocities do not necessarily occur at the time of maximum drawdown due to the offset timing in maximum drawdown compared to maximum flow rate. These conditions maximize the potential for transport of coarse-grained materials (CGMs).

3.2.3 Chemical Transport and Fate

The evaluation of chemical fate and resulting COI-exposure levels of aquatic ecological receptors requires that the important fate-controlling reaction and transfer processes be considered. Figure 3-2 provides a representation of a number of the factors that may control chemical reaction and transfer processes. First, COIs will be distributed between the soluble (i.e., dissolved) and particulate fractions in both the water column and sediment porewater, with the distribution between these fractions affecting the rates of transport within the system. Further, the form of the COI in either of these fractions is also important, because it will affect COI bioavailability and the route of exposure to ecological receptors. The dissolved fraction (both organic chemicals and metals) will include both a freely dissolved fraction and a dissolved ligand-bound fraction. In the case of organic contaminants, the dissolved ligand is generally dissolved organic matter typically quantified as dissolved organic carbon (DOC). In the case of metals, these ligands include dissolved organic matter as well as a number of other chemical species. The ligand-complexed fraction of the dissolved chemical generally has relatively low bioavailability compared to the freely dissolved fraction. In addition, only the freely dissolved fraction of the chemical may be subject to volatilization. A conventional, if somewhat simple, approach to evaluating the distribution of an organic COI between these fractions is to assume that the adsorbed concentration is in equilibrium with and proportional to the freely dissolved concentration. The constant of proportionality is the partition coefficient (typically related to the carbon content of the particulate material) and is COI-specific.

The situation is more complicated for metals, especially where the particulate fraction of bedded sediments is largely associated with granular material that originated from granulated slag. To begin with, significant portions of the granulated slag-related COIs exist within the matrix of internal mineral phases. When present in this form, the interaction between the particulate fraction and the dissolved phase is limited, if not entirely precluded. As speculated by Cox et al. (2005), a portion of this mineralized fraction may be released to the porewater and overlying water column over the longer term, as a result of the relatively gradual processes of weathering/dissolution and subsequent mass transfer between the porewater and overlying water column. Metals may also reversibly precipitate into a mineral phase, depending on the water chemistry at a given time and location in the system. This mineral phase may later dissolve if water chemistry changes. In addition to the mineral fraction, there is an adsorbed particulate metal fraction to consider. It is not unreasonable to consider this fraction to be in an approximate equilibrium with the dissolved concentration in the water column. However, for metals generally, understanding the interaction requires a relatively detailed consideration of both the surficial characteristics of the sorbent (i.e., the particles) and of water chemistry. Interactions of COIs and other positively charged ions (e.g., the hardness cation Ca^{2+}) also influence the degree of adsorption to particulates.

Partitioning of COIs between the dissolved and particulate phases has important implications to COI fate and bioavailability, when considered in combination with the hydrodynamic and sediment transport pathways. First, adsorbed COIs are transferred between the surface water and sediment in association with the settling and resuspension of particulate matter. The propensity of COIs to adsorb to particulate matter also explains why COIs commonly accumulate in bottom sediments of depositional regions. Depending upon the nature of a specific system, bottom sediments often serve as the ultimate COI repository, with the long-term fate of particulate and porewater COIs being sequestered by burial within the sediment. Second, partitioning reactions also affect the diffusive flux of COIs between sediment porewater and surface water. This is because the diffusive flux is proportional to the concentration gradient between these compartments of total dissolved COIs (free + inorganically complexed + DOC-complexed). Finally, partitioning is important because it often is assumed that particle-associated chemicals (internal or adsorbed) and DOC-complexed chemicals have limited bioavailability (Black and McCarthy 1988; Landrum et al. 1985; USEPA 1998a). When this is the case, the particulate fraction does not contribute directly to waterborne toxicity or bioaccumulation in ecological receptors. If the dietary route of exposure is important, the ingested particulate COI fraction could become an additional route of direct exposure.

The relatively simple chemical reactions and transfers described above are expected to be representative of the principal processes controlling the fate of COIs in the UCR. Degradation processes, although important for some organic compounds, are generally of limited importance for metals/metalloids. Conversely, while a relatively simple representation of the distribution of organic chemicals between freely dissolved, DOC-complexed, and particulate organic carbon is commonly assumed, a refined evaluation is often appropriate when considering metals (Paquin et al. 2003). Such an evaluation considers a relatively complex set of chemical speciation and complexation reactions, as well as competition with other cations for adsorption to dissolved and particulate organic matter (POM). Evaluation of speciation is important to the assessment of metals bioavailability, as has been demonstrated in a number of studies (Di Toro et al. 2001; Paquin et al. 2002; Santore et al. 2001; Santore et al. 2002; USEPA 1999). Transport and fate reactions for metals that exist as organometallic forms and/or undergo changes in reduction-oxidation (redox) state (e.g., arsenic, chromium, mercury, and selenium) are more complex than those of metals such as aluminum, cadmium, copper, nickel, lead, silver, and zinc that are not commonly present in multiple forms.

3.3 ECOLOGICAL CONCEPTUAL SITE MODEL

The ecological CSM provides a screening-level framework for identifying potential sources of contaminants in the UCR and the subsequent complex suite of chemical, physical, and biological processes that may occur as a consequence of such inputs. The ecological CSM was developed in coordination with EPA and Participating Parties at the April 2007 workshop. The ecological CSM (Figures 3-1 and 3-3) represents the current understanding of potential sources and the UCR system based on the best available information and recognizes that some of the transport and fate mechanisms, ecological receptors, and exposure pathways will be refined as additional site-specific data are collected and further evaluations are conducted. Primary components of the CSM (i.e., sources, release and transport mechanisms, exposure media, exposure pathways, and ecological receptors) are summarized in the following sections and depicted in Figure 3-1. Some aspects of the CSM have been described in greater detail in previous sections of the document (i.e., Section 3.1 for COIs and Section 3.2 for physical conceptual model) and are only briefly discussed in this section.

3.3.1 COI Sources

Potential and known sources of COIs are presented above in Section 3.1. This section provides a summary of the primary, secondary, and tertiary sources of chemicals entering the UCR. Primary refers to the original source (e.g., discharge point) of a chemical constituent, while secondary and tertiary sources are environmental media (abiotic or biotic) that receive chemical inputs from a primary or secondary source through direct discharge or through chemical transport and fate mechanisms. The sources are defined below and depicted in Figure 3-1.

3.3.1.1 Primary Sources

Ambient Atmospheric Constituents. Ambient atmospheric constituents are those chemicals that are transported to and deposited at the Site from global or regional atmospheric sources and are not tied to a specific point source.

Smelter Operations. This includes chemical discharges via stacks, liquid effluent, or slag discharges from the Trail or Le Roi smelter operations.

Industrial Operations. A number of industrial operations are located above the United States-Canadian border near Trail, B.C., (e.g., Zellstoff mill) or along tributaries to the UCR within the United States (e.g., Spokane River) that historically discharged or currently discharge chemicals to the UCR.

Municipal Point and Nonpoint Sources. Municipal point sources include effluent discharges from wastewater treatment plants located adjacent to the UCR or connected through tributaries to the UCR (e.g., plants located in Trail, B.C., and Colville and Chewelah, Washington). Nonpoint sources include storm water runoff or storm sewer effluent from local communities within the UCR drainage basin.

Agricultural Nonpoint Sources. Many of the areas surrounding the UCR have historically and are currently used for agricultural purposes. Chemicals potentially are released to the UCR through runoff or spray drift from historical or current agricultural operations.

3.3.1.2 Secondary and Tertiary Sources

Chemicals released from primary sources can undergo a variety of chemical and physical transport and fate mechanisms (see Section 3.2.3). These mechanisms result in the distribution of chemicals to environmental media, which then become secondary or tertiary sources. Environmental media (Figure 3-1) considered to be secondary or tertiary sources of chemicals include the following:

- Air
- Surface water
- Sediment
- Groundwater
- Porewater
- Soil
- Biota.

3.3.2 Transport and Fate Mechanisms

A variety of physical, chemical, and biological transport and fate mechanisms influence the distribution of chemicals from their sources to locations throughout the UCR (see Section 3.2 for elaboration of these principles in the aquatic environment). Chemicals generally are transported via solution (i.e., dissolved in water), particulate matter (i.e., chemicals sorbed to sediments, soils, or other particulate matter), or in biological matrices (i.e., bioaccumulated in organisms). The chemical forms (species) and phases[5] in which they occur influence their transport, fate, and bioavailability. Each chemical's form and phase depends on its properties as well as local environmental conditions (e.g., temperature, pH, total suspended solids [TSS], and DOC). The transfer of chemicals between phases occurs via primary, secondary, and tertiary release mechanisms described below and presented in Figure 3-1.

3.3.2.1 Primary Release Mechanism

The primary release mechanism of chemicals can generally be described as the direct discharge of chemicals from primary sources to environmental media. The three avenues of direct discharge to the UCR include, but are not limited to, 1) emission of chemicals from stacks from historical or current industrial operations (e.g., smelters), 2) discharge of chemicals from process wastewater or effluents from point or nonpoint sources, and 3) discharge of chemicals in wastes from point or nonpoint sources. Once released to the environment, chemicals present in environmental media (i.e., secondary sources) are distributed through secondary and tertiary release mechanisms.

3.3.2.2 Secondary and Tertiary Release Mechanisms

Secondary and tertiary release mechanisms generally are associated with the environmental media in which chemicals are contained (Figure 3-1). The following sections describe these transport and fate mechanisms as they relate to environmental media.

Air. Chemicals in the air can be transported via wind dispersion, aerial deposition, or resuspension. Wind dispersion is the process by which chemicals are transported locally, regionally, or globally via wind currents to different locations. Aerial deposition is the settling of chemicals from air to sediment, soil, or surface water via wet or dry deposition. Finally, chemicals may be resuspended into the air from sediments or soils (i.e., as particulate matter or vapor phase) and may be transported to other locations via wind dispersion and aerial deposition. In the UCR, this may occur when littoral sediments are exposed during drawdown periods.

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[5] Forms (species) refer to the specific compound (e.g., Cu^{2+}, $CuCO_3$), whereas the phase refers to how it occurs in the environment (e.g., dissolved versus particulate, including colloidal and bound to ligands like humic acids [Stiff 1971]).

Surface Water. Chemical transport in surface water occurs through physical, chemical, or biological mechanisms. Physical transport processes include in-stream flow (i.e., longitudinal, horizontal, and vertical movement), infiltration (i.e., movement into sediment pore spaces), advection (i.e., bulk movement of chemicals in water), and diffusion (i.e., movement from high chemical concentration to low chemical concentration). Chemical transport mechanisms include precipitation (i.e., dissolved chemicals forming solids due to chemical and environmental characteristics) and adsorption (i.e., attachment of dissolved chemicals to solid materials). Finally, uptake of chemicals in dissolved or solid forms by biota may result in bioaccumulation in the tissues of ecological receptors.

Sediment. Chemicals in sediment (e.g., suspended or bottom) also are subject to physical, chemical, and biological processes. Physical release mechanisms affected by reservoir operations and in-stream flow include entrainment (i.e., longitudinal transport of suspended, bedload, or banks sediments), deposition (i.e., settling and accumulation or burial of sediments onto banks or floodplain soils), erosion (i.e., bank wasting or bank slumping due to reservoir operations), and wind dispersion of fine sediments following seasonal drawdown. Chemical transport processes include dissolution (i.e., dissolving into solution), adsorption/desorption (i.e., attachment or detachment of chemicals to sediment particles), and decrepitation/weathering (i.e., the wasting or breaking up of particles resulting in chemical releases). In addition, biological uptake of chemicals from sediment may lead to the bioaccumulation of chemicals in tissues of ecological receptors.

Partitioning of inorganic (i.e., metals) and nonionic organic chemicals (NIOCs) involves a number of environmental factors (e.g., temperature, pH, oxidation potential, presence of competing ions [e.g., Ca^{2+}] and organic matter). In addition, metals incorporated within a mineral matrix may be released to the aqueous phase over time through physical weathering of the particle surface, followed by chemical dissolution. The partitioning process conventionally is expressed as a partition (or distribution) coefficient (K_d), which is the ratio of the reversibly sorbed particulate chemical concentration to the freely dissolved chemical concentration in the surrounding water. In the case of NIOCs and some metals, partitioning to particulate matter is partially related to the organic content of the particles and is commonly expressed as an organic carbon-normalized partition coefficient (K_{OC}). Values for K_{OC} also are chemical-specific and commonly are indexed in accordance with chemical properties such as the octanol-water partition coefficient (K_{OW})[6] (Di Toro 1985).

Porewater. Physical transfer of chemicals to porewater generally occurs by advection and diffusion from surface water or groundwater (e.g., upwelling) and sediment. Chemicals

[6] The K_{OW} represents the ratio of concentrations in a lipid (fat) substitute, octanol, and water. For example, log K_{ow} of 4 indicates 10,000 times higher concentration in octanol than in water.

may also be released to porewater from the solid phase through dissolution, desorption, and decrepitation/weathering. Chemicals in porewater are potentially available for biological uptake, which may lead to bioaccumulation of chemicals in tissues of ecological receptors.

Groundwater. Release of chemicals to groundwater generally occurs through infiltration from surface water or from wet deposition percolating through the soil column. Chemicals also enter groundwater through release from the solid phase through dissolution, desorption, and decrepitation/weathering. Bank seepage occurs via advection and may affect surface water through discharge from the side banks during pool drawdown. Porewater also may be affected or replaced via groundwater advection. Biological uptake from below surface groundwater aquifers typically is associated with plant root systems and soil invertebrates.

Soil. Chemicals in soils undergo physical, chemical, and biological processes. Physical release mechanisms include entrainment (i.e., transport of particles via storm water runoff), deposition (i.e., settling of solid particles from aerial or sediment sources), erosion (i.e., wasting of soil surfaces by wind or surface water flow), and wind dispersion of fine particles. Some chemicals become irreversibly bound in soil particles through the "aging" process and are no longer available for transport or biological uptake. Chemical transport processes include dissolution, adsorption/desorption, and decrepitation. In addition, biological uptake of chemicals from soils may lead to the accumulation of chemicals in terrestrial plants and wildlife.

Biota. The predominant form of chemical transport to biota is through bioaccumulation of chemicals following exposure to a primary, secondary, or tertiary source. Exposure routes generally are ingestion of, direct contact with, or inhalation of environmental media. For some metals or organic compounds, biological conversion increases their uptake potential (e.g., mercury methylation). Chemicals are accumulated in various tissues (e.g., liver, kidney, brain, or muscle depending upon the chemical) and are transferred throughout the food web or released to the environment upon death and decomposition of organisms.

3.3.3 Exposure Media

Through transport and fate processes, chemicals are distributed to environmental media present at the Site, some or all of which may provide exposures to aquatic and/or terrestrial organisms. As shown in Figure 3-3, the exposure media in the preliminary CSM are air, surface water, groundwater, porewater, sediment, soil, and biota. Chemicals are present in these abiotic media in the dissolved phase (i.e., in solution or as a gas) or as particulate forms (e.g., suspended sediment or aerial dust). Ecological receptors that encounter these exposure media are potentially exposed to their chemical constituents.

3.3.4 Exposure Pathways

There are four general pathways through which ecological receptors may be exposed to chemicals in environmental media:

1. Direct contact with abiotic environmental media (e.g., soil, sediment, or water) and uptake (i.e., through the skin [dermal], gills, or roots)
2. Ingestion of abiotic environmental media (e.g., soil, sediment, or water)
3. Inhalation (i.e., lungs)
4. Dietary consumption of contaminated biota.

Each of these pathways as they relate to specific ecological receptors is shown in Figures 3-1 and 3-3. Exposure pathways are considered either "potentially complete," "incomplete," or "not applicable" for each environmental medium and ecological receptor (as shown in Figure 3-1). All "potentially complete" exposure pathways will be considered or refined during the BERA.

3.3.5 Ecological Receptors

This section identifies the preliminary ecological receptor groups considered to be important in the UCR (see also Figure 3-1). Consistent with EPA guidance (USEPA 1997a; 1998b), the preliminary ecological receptor groups are the following:

- Receptors that inhabit the UCR or could occupy habitats present in the UCR
- Receptors that are important to the structure and function of the UCR ecosystem
- Receptors that are potentially exposed to chemicals in the UCR or are otherwise toxicologically sensitive.

For the screening-level ecological CSM, only broad receptor groups have been identified. Specific surrogate species representative of each of these groups for use in the risk assessment process will be determined during the baseline risk assessment in coordination with EPA. A description of each ecological receptor group is provided below.

3.3.5.1 Plankton Communities

Plankton, both phytoplankton and zooplankton, constitute the base of the primary food chain in the UCR, especially in the lacustrine zone (Scholz et al. 1986; Stober et al. 1981). Phytoplankton (e.g., algae) represent an essential component of aquatic food webs because they convert the sun's energy into organic matter, which can then be consumed by zooplankton. Phytoplankton are primarily exposed to chemicals in the water column. Zooplankton (e.g., protozoa, copepods, cladocerans) reside within the water column and feed on phytoplankton or other zooplankton. Zooplankton, especially cladocerans, are an important food source for some of the fish species in the UCR (Lee et al. 2006). Zooplankton are primarily exposed to chemicals within the water column through sediment contact and consumption of food items.

3.3.5.2 Periphyton Communities

Periphyton consist of assemblages of algae, bacteria, molds, and fungi that live on bottom substrates. Some are autotrophs and others are decomposers. Periphyton may represent an important source of food for benthic and epibenthic invertebrates in the UCR, but they are limited during some times of the year by photoperiod, water temperature, and, in some locations, reservoir operations (Black et al. 2003; BPA 2002). Exposure of periphyton to chemicals primarily occurs through the water column (Trapp et al. 1990).

3.3.5.3 Macrophyte Communities

Macrophytes are vascular and nonvascular aquatic plants that can be either submerged (e.g., Eurasian milfoil) or emergent (e.g., cattails). Although their occurrence may be limited in the UCR because of reservoir operations, they can provide habitat and food to aquatic life and aquatic-dependent wildlife where they are locally abundant. Exposure of macrophytes to chemicals typically occurs via root uptake from surface water, sediment porewater, and groundwater.

3.3.5.4 Benthic Macroinvertebrate Communities

Benthic macroinvertebrates reside in and on the sediments of the UCR (Bortleson et al. 2001). They typically are a key part of aquatic food webs because they consume zooplankton, plants (e.g., phytoplankton, algae, and macrophytes), and detritus. In turn, they constitute prey for other macroinvertebrates, fish, and wildlife. Benthic invertebrates in the UCR are primarily exposed to chemicals via the sediments and associated porewater, the overlying water column, and through consumption of food items and sediments.

3.3.5.5 Fish Communities

Fisheries of the UCR are important economically and culturally (Scholz et al. 1986). In addition, fish communities form an integral component of aquatic food webs as they process energy from aquatic plants, zooplankton, and benthic macroinvertebrate species. Fish communities also include important prey species for humans and piscivorous (i.e., fish-eating) wildlife. Fish communities include varying trophic groups—including piscivores, planktivores, and omnivores—that live in different habitats such as the water column (i.e., pelagic) or near the bottom (i.e., demersal). Examples of pelagic species in the UCR include rainbow trout, kokanee, and walleye, while examples of demersal fish include largescale suckers and white sturgeon. Fish are primarily exposed to chemicals within the water column through gill uptake, consumption of food items (e.g., plankton, macrophytes, benthic invertebrates, and other fish), and incidental ingestion of sediments during feeding.

3.3.5.6 Amphibians

Early life stages of amphibians are aquatic and omnivorous. As they mature, amphibians develop lungs and prey upon both aquatic and terrestrial organisms. Because amphibians require riparian wetlands for at least part of their life cycle, reservoir operations with annual drawdowns may limit available habitat for amphibians within the UCR. Where they occur, amphibians also are a food source for some aquatic life and aquatic-dependent wildlife. In their early life stages, amphibians are primarily exposed to dissolved forms of chemicals via their gills or by aqueous diffusion through egg membranes or skin. Ingestion of contaminated food items or incidental ingestion of sediments is an important route of exposure for adult amphibians. Dermal exposure may continue into adulthood.

3.3.5.7 Reptiles

Reptiles in the UCR occupy certain upland terrestrial habitats (e.g., snakes), although some species will occupy riparian habitats (e.g., turtles). They are omnivores, invertivores, herbivores, and carnivores, consuming plants, invertebrates, amphibians, fish, small birds, and small mammals. Certain species and life stages of reptiles also represent important prey for birds and mammals. Reptiles are exposed to chemicals primarily through the ingestion of food and surface water, as well as incidental ingestion of sediment and soil.

3.3.5.8 Birds

Avian species near the UCR can be divided into aquatic-dependent and terrestrial species. Aquatic-dependent species include bald eagles, ospreys, herons, shorebirds (e.g., sandpipers), and waterfowl. Terrestrial species include raptors, passerines (i.e., perching birds such as swallows, warblers, and sparrows), and galliformes (e.g., grouse and quail). Some terrestrial groups, such as shorebirds and swallows, use both aquatic and terrestrial habitats. Aquatic-dependent species consume macrophytes, invertebrates, fish, and amphibians. Terrestrial species primarily consume plants, invertebrates, reptiles, and small mammals. Some avian species represent prey for other avian or mammalian carnivores. The primary avian trophic groups include piscivores, omnivores, invertivores, herbivores, aerial insectivores, and carnivores. Avian receptors are exposed to chemicals largely through ingestion of food and surface water, as well as incidental ingestion of sediment and soil.

3.3.5.9 Mammals

Mammals near the UCR include aquatic-dependent species (e.g., otter, muskrat), terrestrial species (e.g., mice, deer, coyote), and species that use both habitats (e.g., raccoon and mink). Those species with a diet consisting mainly of aquatic organisms often are termed aquatic-dependent. Mammals also may consume aquatic or terrestrial plants and invertebrates, amphibians, reptiles, birds, or other mammals. They are preyed upon by reptilian, avian, or other mammalian predator species. The primary mammalian trophic groups include piscivores, omnivores, herbivores, aerial insectivores (i.e., bats), and carnivores. Mammals are exposed to chemicals largely through ingestion of food and surface water, as well as incidental ingestion of sediment and soil.

3.3.5.10 Soil Invertebrates

Soil invertebrates reside in and on the soils of riparian and upland areas near the UCR. They include microinvertebrates (e.g., nematodes), macroinvertebrates (e.g., annelid worms, beetles, ants), and other insects. Soil invertebrates represent key elements of terrestrial food webs because they consume plant material and are sources of food for other organisms. Soil invertebrates are exposed to chemicals primarily through aqueous uptake from soil porewater, food consumption, and soil ingestion.

3.3.5.11 Terrestrial Plant Communities

Terrestrial plants are the primary producers in the upland habitats of the UCR. They include mosses, grasses, forbs (i.e., broad-leafed herbs and grasses), shrubs, and trees. Plants represent a primary food resource for a variety of herbivorous and detritivorous receptors, and they provide cover and habitat for terrestrial and aquatic-dependent species. Dominant plant communities near the UCR are assumed to consist of the following:

- Riparian communities—varied vegetation associated with riparian habitats
- Upland communities—varied vegetation associated with upland habitats.

An important exposure pathway for plants is root uptake of contaminants dissolved in groundwater or surface water (Jackson 1998), though foliar uptake can also be important for some chemicals.

3.3.6 Preliminary Assessment Endpoints

Selection of assessment endpoints represents an essential step in the overall problem formulation process. As defined by EPA (USEPA 1997a, 1998a), assessment endpoints are explicit statements of the environmental values to be protected at a site. They are operationally defined by an ecological entity and its attributes (e.g., survival, growth, reproduction). Examples of ecological entities include a species, a community of species, or a functional group of species (e.g., piscivorous fish), among others (USEPA 1997a, 1998a). The second requirement for establishing assessment endpoints is identification of the attributes of the ecological entity that are important to protect and that are potentially at risk, such as reproductive success (USEPA 1998a). For practical reasons, it is often useful to identify assessment endpoints that can be measured with well-developed test methods and field assessment techniques (Suter and Barnthouse 1993). Preliminary assessment endpoints identified in this screening-level problem formulation have been linked to the receptor groups. In general, the screening-level assessment endpoints are related to ensuring (and protecting) survival, reproduction, and growth of receptor groups. The preliminary assessment endpoints developed for receptors at the Site are shown in Table 3-2.

While assessment endpoints are essential for defining the environmental values and their attributes that need to be protected, it is difficult or impractical to measure the effects on all of the members of a receptor group that are exposed to COIs at a site. For this reason, it is also necessary to articulate specific risk questions (i.e., testable hypotheses) that can be answered through the collection of site-specific information. The general risk questions for the SLERA are presented in Table 3-2. Specific testable hypotheses will be developed in subsequent steps of the BERA.

4 PRELIMINARY SCREENING ECOTOXICITY VALUES

This SLERA uses toxicity values (screening ecotoxicity values, SEVs) to determine if COIs should be carried forward in the BERA. SEVs, as used in this SLERA, are conservative numerical estimates of the concentration or dose of a chemical below which there will be no or negligible toxic effects to receptors of concern. They are not intended to be ARARs (applicable or relevant and appropriate requirements) for determining the need for remedial action. These SEVs are assumed to be sufficiently conservative such that COIs not exceeding their respective SEVs are not considered to be a potential risk and can be eliminated from further assessment. Because of their conservatism, exceedance of a SEV does not denote risk. Rather, an exceedance indicates the COI needs further assessment in the BERA. The SEVs selected for use in this SLERA were adopted from publicly available literature sources and are described below.

4.1 SCREENING ECOTOXICITY VALUES FOR SURFACE WATER

Surface water SEVs used in this SLERA are presented in Table 4-1. They are considered protective of aquatic life (e.g., plankton, macrophytes, benthic macroinvertebrates, and fish) and include the following:

- **EPA's chronic ambient water quality criteria (AWQC) (USEPA 2006b).** The chronic AWQC are designed to protect ≥95 percent of the species tested against effects on growth, reproduction, and survival following long-term chemical exposures (weeks to months). The AWQC for several metals vary depending on water hardness, and equations are provided by EPA for calculating the AWQC based on site-specific hardness values (the lower the hardness, the more bioavailable the metal and hence lower the AWQC concentration). The AWQC for most metal COIs are expressed in terms of the dissolved fraction in the water (Prothro 1993; Ankley et al. 1996).
- **The Washington State chronic water quality standards (WQS) (Ecology 2006a).** The chronic WQS are adopted from the EPA's chronic AWQC, although they do not always reflect EPA's most current AWQC. In these cases, Ecology has selected more stringent WQS to protect salmonid species. The SEVs for most metals are expressed in terms of the dissolved fraction in the water column.
- **The Confederated Tribes of the Colville Reservation (CCT) water quality criteria.** The CCT provide a narrative standard for toxic substances rather than specific numeric criteria (Colville Tribal Law and Order Code [Confederated Colville Tribes 2004; CFR 131.35]). It is assumed that these criteria are equivalent to EPA AWQC as the Colville Tribal Code indicates:

"*Toxic, radioactive, nonconventional, or deleterious material concentrations shall be less than those of public health significance, or which may cause acute or chronic toxic condition to the aquatic biota, or which may adversely affect designated water uses*."

The criteria are intended to be below levels that may cause acute or chronic effects in aquatic biota.

- **The Spokane Tribe of Indians water quality standards (STI 2003).** These standards were published in 2003. Water quality standards for toxic pollutants were developed for the protection of aquatic life from chronic and acute exposures and were derived from EPA's AWQC or Ecology WQS.
- **The Canadian Council of Ministers of the Environment (CCME) water quality guidelines (CWQG) (CCME 2007).** The CWQGs were developed to provide basic scientific information about water quality parameters and ecologically relevant toxicological thresholds for Canadian species to protect specific water uses. In deriving the CWQGs, all components of the aquatic ecosystem (e.g., algae, macrophytes, invertebrates, and fish) were considered if the data were available. The goal was to protect all life stages during an indefinite (chronic) exposure to water. The CWQGs were derived from the available literature on the effects of the substance on various species for the protection of the appropriate use (e.g., aquatic life). Unless otherwise specified, a CWQG refers to the total concentration in an unfiltered sample (i.e., dissolved plus particulate-bound COI). Some guidelines (e.g., copper, lead, nickel) are hardness-dependent. Although the CCME CWQGs are derived for total concentrations, dissolved concentrations were also compared to the CWQGs for informational purposes (see Section 6).

For the screening evaluations, the lowest available SEV for the dissolved metal concentration from the EPA AWQC, Ecology WQS, and tribal water quality standards was used to screen dissolved COI concentrations in surface water and porewater. For total or total recoverable COI concentrations, CCME CWQG SEVs were used in the screening. For hardness-dependent screening values, the hardness value used for the screening evaluation was the sample-specific value or, when a sample-specific value was not available, the arithmetic mean of hardness measurements (66.89 ± 4.5 mg/L $CaCO_3$) collected between 2000 and 2006 in conjunction with the Ecology water quality monitoring (Station # 12400520) was used (see Appendix Table A-2 for raw data).

4.2 SCREENING ECOTOXICITY VALUES FOR SEDIMENT

Sediment SEVs used in this SLERA are presented in Table 4-1. They are all considered protective of aquatic benthic invertebrates and were applied in a hierarchical manner. The primary SEVs were the threshold effect concentrations (TECs) developed by MacDonald et al. (2000). The values presented in MacDonald et al. (2000) have been wholly adopted by the CCT and are equivalent to the CCT sediment cleanup levels for the protection of sediment dwelling organisms (Colville Tribal Hazardous Substances Control

Act, Chapter 16, Appendix D). The TECs represent consensus-based sediment quality guidelines (SQGs) and were calculated as the geometric means of published SQGs from a variety of sources (i.e., Persaud et al. 1993; Smith et al. 1996; Long and Morgan 1991; Ingersoll et al. 1996; EC and MENVIQ 1992; Zarba 1992; USEPA 1996, 1997b). TECs are defined as contaminant concentrations below which harmful effects on sediment-dwelling organisms are not expected.

Alternative SEVs for sediment were used for chemicals lacking TECs, with the lowest available SEV used for each COI (see Table 4-1). The alternative SEVs included:

- **Ecology (2003) sediment quality standards (SQSs).** The SQS values are defined as the concentrations below which adverse effects are not observed. Values were calculated using the floating percentile method, which results in SQS values with an overall reliability of detecting sediment toxicity greater than 80 percent. These SEVs have not been adopted by Ecology as freshwater sediment criteria.
- **Ecology (2003) lowest apparent effects thresholds (LAETs).** These SEVs represent the lowest effects threshold based on four different types of sediment toxicity tests. The LAET represents the concentration of a chemical above which a statistically significant biological effect (e.g., mortality) is expected to occur. These SEVs have not been adopted by Ecology as freshwater sediment criteria.
- **USEPA (2004f) Tier 2 equilibrium partitioning sediment guidelines (ESGs).** The Tier 2 ESGs are sediment SEVs intended to protect aquatic life and were developed for the National Sediment Quality Survey. ESGs were derived using the equilibrium partition coefficient method and chronic AWQC. The ESGs are expressed on an organic-carbon normalized basis, and therefore are dependent on the organic content of the sediments. The ESGs for a particular sediment sample can be expressed on a dry-weight basis by dividing them by the sample-specific fractional organic content (see Table 4-1).

No sediment SEV was available from the above sources for dioxins and furans. However, the Canadian environmental quality guidelines (CCME 2002) contain a value of 0.85 ng TEQ/kg-dry weight for toxicity of sediments to fish. This value is based on using the toxicity equivalency procedure and toxicity equivalent factors (TEFs) as described in Van den Berg et al. (1998). This value was used to evaluate dioxins/furans measured in UCR sediments.

4.3 SCREENING ECOTOXICITY VALUES OF BIOACCUMULATIVE CHEMICALS IN TISSUES OF AQUATIC RECEPTORS

At the April 2007 UCR workshop, the consensus opinion was that the SLERA should address the potential risks posed by COIs that may bioaccumulate in UCR organisms by considering their bioaccumulative potential in lieu of evaluating fish tissue concentrations. Those COIs with bioaccumulative potentials will be carried forward to the BERA for a site-specific assessment of benthic and/or fish tissue accumulation. For screening purposes, any organic chemical that has a log $K_{ow} \geq 4.0$ will be considered a potentially bioaccumulative substance, and will be further evaluated in the BERA. The critical K_{ow} value of 4.0 is based on the literature, which indicates that neutral organic COIs with a log K_{ow} of 4.0 have fugacities of approximately 1.0 and occur virtually entirely dissolved in the water (Clark et al. 1990). In addition, bioaccumulation of organic chemicals with log K_{ow} values greater than approximately 6 is not linearly related to log K_{ow} and is less than predicted by this model[7] (USEPA science advisory board [SAB] 1995; Fisk et al. 1998). Therefore, organic chemicals with log K_{ow} less than 4.0 will not be further evaluated in tissues of biota in the BERA. They will, however, be assessed for direct toxic effects in the SLERA through comparison to soil, water, or sediment SEVs and through other appropriate lines of evidence in the BERA.

The K_{ow} for each COI is presented in Table 4-1. Metals will not be considered because they do not meet this definition of a bioaccumulative substance. Organometallics and other specific metals (i.e., cadmium) may bioaccumulate in specific tissue (such as brain, ovaries, or kidneys). However, it is recognized that metal body burdens are not directly correlated with effects (MacKay et al. 2001; SETAC Pellston Workshop 2007), so measurement of metals in tissue of biota will be used to assess risk to predators but not to the biota themselves.

4.4 SCREENING ECOTOXICITY VALUES FOR SOIL

The soil SEVs used in this SLERA consist of the EPA ecological soil screening levels (Eco-SSLs) and are presented in Table 4-2.

> *"Ecological Soil Screening Levels (Eco-SSLs) are concentrations of contaminants in soil that are protective of ecological receptors that commonly come into contact with and/or consume biota that live in or on soil. Eco-SSLs are derived separately for four groups of ecological receptors: plants, soil invertebrates, birds, and mammals. As such, these values are presumed to provide adequate protection of terrestrial ecosystems. Eco-SSLs are derived to be protective of the conservative end of the exposure and effects species distribution, and are intended to be applied at the screening stage of an ecological risk assessment"* (USEPA 2005b).

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[7] The USEPA SAB (1995) believed that existing data and models were applicable for "...deriving order-of-magnitude estimates of bioaccumulation for a class of chemicals with log K_{ow} of 3.5 to 6.0 and for chemicals that do not degrade or transform [i.e., are neutral organic chemicals]." They concluded that K_{ow}-based models do not accurately predict bioaccumulation potential for chemicals that are significantly metabolized by food web organisms, degraded in the environment, or have limited bioavailability. The existing models do not work for chemicals whose fate is NOT governed by equilibrium partitioning (e.g., ionic, reactive inorganics and organics).

Evaluation of the available soil data consisted of comparing the maximum soil concentration of each COI to the lowest available Eco-SSL of the four ecological receptor groups.

4.5 SCREENING ECOTOXICITY VALUES FOR AQUATIC-DEPENDENT WILDLIFE RECEPTORS

SEVs for aquatic-dependent wildlife receptors are not as readily available as for surface water, sediment, or soil. Rather, toxicity reference values for comparison to estimated dietary exposure were derived from multiple sources. The details about SEV selection and comparison with estimated concentrations in bird or mammal diets are presented in Appendix D.

5 EXISTING DATA EVALUATION

This SLERA used data from EPA's Phase 1 sampling program as well as other Site investigations that were conducted after 2000, and were determined to be of appropriate quality and usability. The period between 2000 and 2006 was selected to address the most recent conditions within the UCR, recognizing that the UCR is dynamic. This period also encompassed a number of important studies that provided sufficient sample sizes to facilitate the screening goals of this SLERA.

Data sets were determined to be of appropriate quality for use in the SLERA if they provided sufficient information to validate the collection method and the analytical procedures used. Because the data quality objectives (DQOs) for a SLERA may differ from those of the initial studies, compliance with a study-specific DQO was not sufficient justification for inclusion in the SLERA. Collection methods should have followed standard, approved procedures for the media of concern (e.g., ponar samplers for bulk sediment collection). Analytical methods should have followed EPA-approved methods, where available, and appropriately document any other procedures. Laboratory quality assurance and quality control (QA/QC) (e.g., duplicate samples or spike results) must have been within generally acceptable limits.

Each acceptable data set was then evaluated as follows:

1. Any COI with measured concentrations above the SEV value will be carried forward to the BERA.
2. Any COI without a screening SEV will be carried forward to the BERA.
3. In some instances, there were COIs that did not have any measured concentrations (i.e., all samples were non-detected) and for which a screening SEV was available. In these cases, detection limits were compared to the SEVs and the following decision rules were used to determine which chemicals could be screened out as not posing significant ecological risk and which will be carried forward to the BERA.
    a. If there were multiple samples, and all detection limits were less than the SEV, the COI will be screened out as not posing significant ecological risk.
    b. If there were multiple samples and the number with detection limits less than the screening SEV provided adequate spatial coverage for screening throughout the UCR when data sets collected by EPA from 2001 and 2005 were combined (maps showing the spatial distributions of these COIs are presented in Appendix B), the COI will be screened out as not posing significant ecological risk. Adequate spatial coverage

meant that acceptable data were available throughout the length of the UCR such that each reach had multiple samples collected below the high water mark. For each of the data sets examined in this manner, there were at least 345 sample points within the UCR.

c. If there were multiple samples, and all detection limits were greater than the screening SEV, then the COI will be carried forward to the BERA.

The data sets used in this SLERA are summarized in the sections below, by media type.

5.1 SURFACE WATER QUALITY DATA

Three surface water data sets were considered of adequate quality for inclusion in the SLERA:

- Ecology (2007) collected surface water quality monitoring data at Northport, Washington (Station #12400520). Ecology conducts quality assurance evaluations prior to making data available through their environmental information management database. Ecology verified and validated data for the Northport station according to an Ecology-approved Quality Assurance Project Plan (QAPP). The Ecology QAPP contains the same provisions for acceptance as stated above, with the exception of requiring detection limits to be less than the SEV. Results for water quality parameters measured between January 2000 and December 2006 are presented in Appendix Table A-1; a map of sampling locations with acceptable quality data is presented in Appendix Figure A-1. Available data for dissolved and total metals and metalloids evaluated over this time period include arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc. Parameters useful for evaluating water quality (i.e., hardness, temperature, pH, ammonia, nitrite-nitrate, phosphorous, and TSS) are also reported in Appendix Table A-2.
- USGS (2006) also collected data at Northport (Station# 12400520) from 1951 to 2000. The USGS National Water Information System database was queried for the last year of monitoring (i.e., 2000), and seven surface water samples were available from this collection period (Appendix Tables A-3 and A-4). Metals, pesticides (i.e., pesticides measured in surface water that have also been examined in UCR sediments include atrazine, alpha-BHC, lindane, dieldrin, and DDE), and conventional parameters (e.g., pH, hardness, and total organic carbon) were measured in the dissolved fraction.

  Additional pesticides also monitored by the USGS included the following (see Appendix Table A-4): 2,6-diethylaniline, acetochlor, alachlor, benfluralin, butylate, carbaryl, carbofuran, chlorpyrifos, cis-peremethrin, dacthal (DCPA), de-ethylatrazine (CIAT), diazinon, disulfoton, eptam (EPTC), ethalfluralin, ethoprop, fonofos, linuron, malathion, methyl-azinphos, methylparathion, metolachlor, metribuzin, molinate, napropamide, parathion, pebulate, pendimethalin, phorate, prometon, propachlor, propanil, propargite, propyzamide, simazine, tebuthiuron, terbacil, terbufos, thiobencarb, triallate, and trifluralin. These pesticides are not considered part of the COI list (and will not be discussed further in this SLERA) because:

1. None of them have been designated in any previous study of the UCR as a potential chemical of interest (see Section 3.1).
2. The major crops grown in Ferry, Lincoln, and Stevens counties (adjacent to the UCR) from 1990 to 2007, according to the U.S. Department of Agriculture (2008), are wheat, barley, potatoes, alfalfa, hay, sugarbeets, and limited corn production. Several of the pesticides listed above are not used on these crops nor have they been identified as being used near the UCR; therefore, it is highly unlikely that they would be present at the Site (USGS 2002).
3. These pesticides were not detected surface water during the USGS sampling program.
4. They are not commonly analyzed or do not have standard methods for analysis in media other than surface waters. The resources necessary to develop these methods and gain approval by EPA are significant and not necessary, given the use patterns and limited detections.

Thus, these pesticides are presented in Appendix A for only for completeness, because they were included in the USGS database; however, they will not be analyzed further in the SLERA or other stages of the UCR RI/FS.

- In addition to the Northport monitoring data, Paulson et al. (2006) measured metal and metalloid concentrations in reservoir water samples collected at various locations throughout the UCR (i.e., near Northport, China Bend, Evans, Gifford, Hunters, Grand Coulee Dam, and the mouth of the Sanpoil River). Only the two samples collected from the water surface (i.e., located near Northport and Evans, Washington, see Figure A-1) were used in the screening evaluation due to the uncertainty in the unusual method of collecting water from the sediment box corer (i.e., the surface water concentrations may have been influenced by mixing with sediments or porewater). Raw data are provided in Appendix Table A-6.

In addition to the above-listed studies, one study was identified that measured PBDEs at one location in the UCR (i.e., near Marcus Flats) (Ecology 2006b). Sampling involved placement of a semi-permeable membrane device (SPMD). An SPMD consists of a tubular, layflat, low-density polyethylene (LDPE) membrane containing a thin film of a high-molecular weight lipid (triolein). The LDPE tubing mimics a biological membrane by allowing selective diffusion of hydrophobic organic compounds into the lipid. SPMDs sequester the dissolved, readily bioaccumulative form of a chemical and provide lower detection limits than traditional water sampling techniques. Sample concentrations were reported in nanograms per SPMD (Ecology 2006b). PBDEs were detected as PBDE-47, PBDE-99, and total PBDEs. Concentrations of these three PBDEs in the dissolved phase were estimated by Ecology (2006b) (using known octanol-water partition coefficients [K_{ow}s]) at 13, 3, and 16 picograms/L, respectively. Because of the limited nature of the sampling (i.e., estimated concentrations from 1 sample) and the lack of surface water SEVs for PBDEs, these data were not evaluated in the SLERA and PBDEs will be further evaluated in the BERA.

5.2 POREWATER DATA

Three sediment porewater data sets are available for the UCR that were collected after 2000. Two of these are considered of appropriate quality for use in the SLERA; a map of sampling locations with acceptable quality data is presented in Appendix Figure A-2 and a summary of the results is presented in Appendix Table A-5. The third data set, conducted by EPA (USEPA 2005b), collected porewater samples at 50 stations distributed throughout the UCR in conjunction with sediment collected for sediment toxicity tests. The samples were analyzed for dissolved concentrations of several metals and metalloids. However, because the porewater was collected to aid interpretation of the sediment toxicity tests rather than to quantify porewater concentrations *in situ* (USEPA 2005a), these data were considered inappropriate for use in the SLERA. The data collected by EPA (USEPA 2005b) are therefore not evaluated in this SLERA, but will be used during the BERA Work Plan development to direct future studies. A summary of the data sets evaluated in the SLERA is provided below:

- USGS (Cox et al. 2005) collected 11 porewater samples from sediment cores collected at three locations in the UCR (i.e., RMs 668, 692, and 705). The samples were analyzed for dissolved concentrations of several metals and metalloids. These data were screened in the SLERA and are presented in Appendix Table A-7.
- USGS (Paulson et al. 2006) collected 32 porewater samples at the same locations (i.e., near Northport, China Bend, Evans, Gifford, Hunters, Grand Coulee Dam, and the mouth of the Sanpoil River) as the surface water samples described in Section 5.1. The samples were analyzed for dissolved concentrations of several metals and metalloids. These data were used in the SLERA and are presented in Appendix Table A-6.

5.3 SEDIMENT DATA

Several sediment data sets were evaluated in the SLERA. The raw data and maps showing sampling locations are presented in Appendix Tables B-4 through B-14 and Appendix Figure B-1. A summary of the number and type of samples collected in each of these investigations is presented in Table 5-1. All sediment samples, regardless of depth within a core, were used in this analysis. The studies included in the sediment screening include the following:

- Ecology (2001)—*Reassessment of Toxicity of Lake Roosevelt Sediments.*
- EPA (USEPA 2003a)—*Upper Columbia River Expanded Site Investigation Report, Northeast Washington.*
- USGS (Cox et al. 2005)—*Vertical Distribution of Trace-Element Concentrations and Occurrence of Metallurgical Slag Particles in Accumulated Bed Sediments of Lake Roosevelt, Washington, September 2002.*
- EPA (USEPA 2006a)—*Phase I Sediment Sampling Data Evaluation, Upper Columbia River Site CERCLA RI/FS.*
- USGS (Paulson et al. 2006)—*Concentrations of Elements in Sediments and Selective Fractions of Sediments and in Natural Waters in Contact with Sediments from Lake Roosevelt, Washington, September 2004.*

While the above-listed studies collected sediment from many locations within and around the UCR, not all samples were considered to be within the Site. Sediment samples that were excluded from the SLERA because they lay outside of the Site include the following:

- Reference samples from USEPA (2005a)

  "*Reference bioassay samples will be collected from the following tributaries at elevations greater than the maximum water level in the reservoir: Fivemile Creek (RM 732), Crown Creek (RM 725), Flat Creek (RM 721), Nancy Creek (RM 705), Barnaby Creek (RM 686), Cheweka Creek (RM 685)*"

  Therefore, because these samples were collected above the maximum reservoir level, they are considered outside the boundaries of the Site and were not screened in the SLERA.

- According to the Sampling and Quality Assurance Plan (SQAP) for the UCR/Lake Roosevelt Expanded Site Inspection (Weston 2001)

  "Tributary sediment samples will be used to evaluate the potential contribution of the tributaries to contaminant levels in the river. The tributary samples will be collected from locations above the influence of the river as indicated by the Mean High Water level elevation in the area. The elevation of sampling locations will be estimated using visual observation of apparent mean high water shoreline level indicators or by the use of an altimeter."

  Because these samples were collected to determine inputs to the UCR from areas not influenced by the reservoir, they are considered to be outside the Site and were not screened in this SLERA.

In addition to the aforementioned studies, an additional sediment study was conducted by USGS (Majewski et al. 2003—*Concentrations and Distribution of Slag-Related Trace Elements and Mercury in Fine-Grained Beach and Bed Sediments of Lake Roosevelt, Washington, April-May 2001*). The sediment samples analyzed in this study were composed of the fine-fraction (<63 microns) rather than bulk sediments. Because of the sediment size fractionation these samples may not be representative of the concentrations to which ecological receptors may be exposed and therefore were not appropriate for comparison to the sediment SEVs. Thus, the Majewski et al. (2003) sediment data and the USEPA (2006a) data that consisted of size-fractioned sediments (i.e., samples other than bulk sediments) were excluded from the SLERA.

5.4 SOIL DATA

A comprehensive soil investigation has not been conducted at the Site; however, some historical data sets are available for areas surrounding the UCR. Data from the following studies were reviewed for use in the SLERA:

- Washington state samples (79 samples) (Holmgren et al. 1993)
- Washington state samples (one surficial sample, 0 to 10 cm) (Burt et al. 2003)
- National Uranium Resource Evaluation-Hydrogeochemical and Stream Sediment Reconnaissance (NURE-HSSR) data (1,824 samples) (USGS 2007)
- Le Roi Smelter Removal Action (six outer area samples only) (Weston 2005)
- Early soils analysis from a biomonitoring program circa 1995 (three samples) (TCM 2007).
- Vegetation Recovery Following Pollution Control at Trail, British Columbia (Archibold 1974) (two surface soil samples collected between Northport and the U.S.-Canadian border)

This set of studies includes all surface soil data from the U.S. in the vicinity of the study area that were known and available at the time of this analysis. Based on a review of these studies, the data from Weston (2005), TCM (2007) and Archibold (1974) were included in the screening analysis because of their proximity to the project area and their focus on investigating potential contamination from Trail or other mining/smelting activities. A map of approximate sample locations from these three studies is presented in Appendix Figure C-1. The studies conducted by Holmgren et al. (1993), Burt et al. (2003) and USGS (2007) focused on regional or background metal concentrations and therefore were not evaluated in the SLERA.

There may be some uncertainties associated with each of these data sets. The quality of data from the Burt et al. (2003), Holmgren et al. (1993), Weston (2005), and TCM (2007) studies was considered to be acceptable because these data were either published in peer-reviewed journals or collected under the direction and oversight of environmental regulatory bodies. The field and analytical methods used to collect and analyze the NURE-HSSR data were reviewed by an analytical chemist on Integral's staff, relying on published descriptions of the methods (Bolivar 1980; Puchlik 1977; and Steinborn 1977). Quality assurance procedures used in the NURE-HSSR study included use of geologists as field staff, field staff training programs, performance audits of field procedures, field replication for quality control, laboratory analysis of standards with the environmental samples, and both intra- and inter-laboratory quality control checks. The 500-1,000 μm fraction of each sample was analyzed by neutron activation analysis, a sensitive method that effectively quantifies the total amount of each element. Overall, the quality assurance measures implemented during the NURE field and laboratory programs followed the standards of good laboratory practice, and these data are considered usable for the purpose of evaluating soil conditions.

5.5 FISH TISSUE DATA

Currently, the only available fish tissue data considered adequate for the SLERA are the results from the EPA Phase 1 investigation in 2005 (USEPA 2005c). Screening of these data was conducted by two methods: 1) screening on the basis of bioaccumulation potential (see Section 4.3) and 2) screening on the basis of consumption by aquatic-dependent wildlife (see Appendix D). A summary of the fish tissue data is available in USEPA (2007b) and in Appendix D.

6 SCREENING-LEVEL EXPOSURE AND RISK EVALUATION

This section sets forth the results of the SLERA. The processes for estimating the environmental exposure concentrations and estimating potential risk for the SLERA are presented in the following subsections.

6.1 SCREENING-LEVEL EXPOSURE ESTIMATION

The screening-level exposure estimation step identifies the probable maximum environmental COI concentrations to which ecological receptors may be exposed. These estimates identify the highest measured COI concentration for the Site (USEPA 1997a), which was then compared to the conservative SEVs. The number of samples exceeding various SEVs, along with the frequency of detection, and maximum concentrations are presented in Tables 6-1, 6-2, 6-3, and 6-4 (screening summary tables for each individual study is presented in Appendices A, B, C, and D).

Estimation of exposure for groups of similar compounds (e.g., 1,1-trichloro-2,2-bis(p-chlorophenyl)ethane [DDTs], PCBs, and PAHs) requires the summation of similar compounds (Renner 1997; MacDonald et al. 2000). The following summarizes the methods used to estimate totals for certain analyte groups for the SLERA.

- Total PCB Aroclors for sediments were calculated as the sum of the following Aroclors—1016, 1221, 1232, 1242, 1248, 1254, and 1260 (MacDonald et al. 2000). Total PCBs were calculated by substituting one-half of the detection limit (DL) for non-detects (Gleit 1985). For individual samples in which none of the seven Aroclor mixtures was detected, total PCBs were assigned a value equal to one-half of the highest DL of the seven Aroclors.
- Total PAHs for sediments were calculated as the sum of the 13 PAHs (anthracene, acenaphthene, acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene) used to derive the total PAH SEV (MacDonald et al. 2000; Swartz 1999). As for total PCBs, total PAHs were calculated using one-half of the detection limit for undetected COIs. For individual samples in which none of the 13 PAHs were detected, total PAHs were given a value equal to one-half of the highest detection limit quoted for all the PAHs considered.
- Total dichloro-diphenyl-dichloroethane (DDD), dichloro-diphenyl-dichloroethene (DDE), and DDT concentrations for sediment were calculated by summing the 2,4′- and 4,4′-isomers, respectively. Total DDx (all isomers) was calculated by summing all six DDT isomers—2,4′-DDD; 4,4′-DDD; 2,4′-DDE; 4,4′-DDE;

2,4′-DDT; and 4,4′-DDT. As described above, the totals were calculated using one-half of the detection limit for nondetected values. For individual samples in which none of the isomers were detected, totals were given a value equal to half of the highest detection limit of all isomers.

- Total chlordane for sediment was calculated for the sum of the following metabolites—cis-chlordane, trans-chlordane, cis-nonachlor, trans-nonachlor, and oxychlordane. As described above, the totals were calculated using one-half of the detection limit for nondetected values. For individual samples in which none of the chlordane metabolites was detected, total chlordane was given a value equal to half of the highest detection limit of all metabolites.
- Total dioxins and furans (TEQ) were calculated using the fish TEFs presented by Van den Berg et al. (1998). As described above, the totals were calculated using one-half of the full detection limit for nondetected values.

6.2 SCREENING-LEVEL RISK ESTIMATION

The risk estimation step provides a comparison of the screening-level exposure estimates to the SEVs. This comparison provides the screening-level risk estimation following the equation defined below:

$$\text{Hazard Quotient (HQ)} = \frac{\text{COI concentration in media}}{\text{COI screening benchmark value}}$$

Results of the screening-level risk estimation are provided in Tables 6-1 through 6-5. The results include the number of samples collected, the frequency of detections, the maximum measured (or nondetected value), and the number and percent of samples exceeding the respective SEVs. If any COI exceeded its respective SEV (i.e., HQ >1.0), that COI was not screened out and will be carried forward to the BERA.

6.3 RISK CHARACTERIZATION

The following subsections summarize the results of the screening-level evaluation by media type.

6.3.1 Surface Water

Results of the screening evaluation of COIs in surface water are presented in Tables 6-1 and 6-2. Only one of the dissolved metals (i.e., cadmium) monitored at Northport by Ecology (2007) exceeded the SEV (i.e., HQ = 1.4) for dissolved metals in water, and that only occurred on one occasion in 2002 (see Table 6-1 and Appendix Table A-1). All other dissolved samples collected between 2000 and 2006 did not exceed the SEVs for the monitored analytes.

Total recoverable metal concentrations were compared to the CCME SEVs, which generally are lower than SEVs based on the EPA AWQC or Washington WQS. Cadmium, copper, lead, and zinc exceeded their respective SEVs. However, zinc, lead, and copper exhibited only single exceedances in 2003, with HQs of 1.5, 1.1, and 1.4, respectively. For cadmium, all 25 non-detected samples had detection limits (0.1 μg/L) that exceeded the screening value of 0.02 μg/L. Therefore, there is insufficient information to reach a conclusion about cadmium.

Dissolved cadmium, selenium, and silver measurements in samples collected by USGS (see Table 6-1 and Appendix Table A-3) all had detection limits that exceeded respective SEVs. Therefore, no conclusions can be reached and these metals will be evaluated further in the BERA.

A limited number of SEVs are available for the pesticides measured at Northport by USGS (see Table 6-1 and Appendix Table A-3). For those pesticides with a SEV, dieldrin could not be evaluated because the detection limit exceeded the SEV. None of the other pesticides had measured concentrations above their SEVs.

An additional comparison between dissolved concentrations and CCME SEVs was conducted to determine if any exceedances occurred (see Table 6-2). For surface water, 15 dissolved cadmium samples were found to exceed the total CCME SEV. No other COIs exceeded CCME SEVs.

In summary, few exceedances of screening SEVs were found for surface water in the UCR, based on data collected between 2000 and 2006. However, because the spatial coverage of the surface water sampling locations is limited to Northport, no COIs (metals/metalloids and organics) will be screened out and all will be carried forward in the BERA.

6.3.2 Porewater

Results of the screening evaluation of COIs in porewater are presented in Tables 6-1 and 6-2. Several metals evaluated by USGS (Cox et al. 2005; Paulson et al. 2006) exhibited exceedances of the SEV for dissolved metals, namely aluminum, cadmium, copper, iron, and lead. Selenium and silver had detection limits that exceeded their SEV concentrations and so could not be evaluated. The maximum HQs for aluminum, cadmium, copper, iron, and lead were 5.1, 5.4, 1.5, 5.6, and 4.8, respectively.

An additional comparison between dissolved concentrations and CCME SEVs was conducted to determine if any exceedances occurred (see Table 6-2). COIs for which dissolved porewater samples exceeded total CCME SEVs included aluminum, arsenic, cadmium, copper, iron, lead, and zinc.

In summary, a number of exceedances of screening SEVs were found for at least seven metals in porewater of the UCR, based on data collected between 2000 and 2006. However, because numerous metals had no SEV values and the spatial coverage of the sampling locations is limited, no COIs (metals/metalloids and organics) will be screened out at this time, and all will be carried forward in the BERA.

6.3.3 Sediment

Screening results for COIs in sediments are presented in Table 6-3 and Appendix Tables B-1 through B-3. A summary of the sediment screening results by COI group is presented below:

- **Metals/metalloids**. Concentrations of all metal/metalloid COIs for which SEVs were available frequently exceeded those SEVs. This finding applied to all sediment investigations that have been conducted within the UCR since 2000 (see Table 6-3, and Appendix Tables B-1, B-2, and B-3). The USGS collected a large suite of metal/metalloid compounds for which no SEVs were available (e.g., bismuth, cerium, cesium, dysprosium, erbium, gadolinium, zirconium, etc.). Because of SEV exceedances or lack of SEVs, all metal/metalloid COIs will be carried forward in the BERA.
- **Dioxins/furans**. Dioxin/furan COI concentrations were measured in beach and core samples in 2005 by EPA. Maximum measured TCDD TEQ concentrations exceeded the Canadian environmental quality guideline (0.85 ngTEQ/kg-day) for dioxins/furans and, therefore, they will be carried forward in the BERA (see Table 6-3).
- **PAHs**. PAHs were evaluated as part of the 2005 EPA sediment investigation. Although PAHs were frequently detected, none exceeded the SEV concentrations, including total PAHs. These results indicate that PAHs in sediments do not need to be further evaluated (see Table 6-3). However, because these are bioaccumulative substances (log K_{ow} >4.0) they will be further evaluated in the BERA.
- **PCBs**. PCBs were evaluated by EPA in 2001 and 2005. They were detected in only two of 395 samples (see Table 6-3). One sample (sample CS0112 from USEPA 2003a) had a total PCB concentration that exceeded the SEV value when including one-half of the full detection limit in the concentration summation for each of the individual PCB of interest. The detection limits for the individual aroclors ranged from 62 to 130 μg/kg for this sample, which is higher than the total PCB SEV of 59.8 μg/kg. It should be noted that the detection limits from USEPA (2003a) were typically an order of magnitude higher than USEPA (2006a). No sample from USEPA (2006a) exceeded the SEV for total PCBs even when using one-half of the detection limit. The other sample with detected PCB concentrations (RM687A1

from USEPA 2006a) had a total PCB concentration of 41.2 μg/kg, which is below the SEV. Therefore this individual exceedence from USEPA (2001a) is likely an artifact of substituting elevated detection limits into the total PCB calculation and, in other words, it was not a measured value. Therefore, the results for all of the other 394 samples indicate that PCBs in sediments do not need to be further evaluated for benthic organisms. However, because these are bioaccumulative substances (log K_{ow} >4.0) they will be further evaluated in the BERA in tissues.

- **Pesticides**. Numerous pesticide COIs were evaluated in sediments during investigations in 2001 and 2005 by EPA (see Table 6-3). Screening of these data was conducted according to the procedure described in Section 5.

    1. Any sample that had measured pesticide(s) with concentrations above the screening SEV value was identified and that pesticide(s) will be carried forward to the BERA.
    2. Any pesticide COI without a screening SEV will be carried forward to the BERA.
    3. A number of pesticide COIs for which a screening SEV was available had some samples with detection limits above the SEV value and some whose detection limits were below this value. For these COIs, the following decision rules were used to determine which pesticides could be screened out as not posing significant risk:
        a. No measured concentrations exceeded the screening SEV
        b. There were multiple samples with non-detectable concentrations that had detection limits less than the screening SEV
        c. Those samples with detection limits less than the screening SEV provided adequate spatial coverage throughout the UCR when data sets from 2001 and 2005 were combined (maps showing the spatial distributions of these COIs are presented in Appendix Figures B-2 through B-9).

    The following pesticides did not have screening SEVs and therefore are carried forward to the BERA—aldrin, atrazine, alpha-BHC, beta-BHC, endrin aldehyde, endrin ketone, endosulfan sulfate, heptachlor, hexachlorobenzene, and hexachlorobutadiene.

    DDT and its metabolites and methoxychlor had measured values that exceeded their screening SEVs. Therefore, these chemicals will be carried forward to the BERA.

Delta-hexachlorocyclohexane (delta-BHC) had no measured values (see Table 6-3) and none of the sample detection limits exceeded the screening SEVs. Therefore, delta-BHC can be screened out and will not be analyzed further in sediment.

Several pesticides met the third criterion above (i.e., had acceptable detection limits and no measured values in any sediment sample) and can be screened out. These include lindane, dieldrin, endosulfan I, endosulfan II, endrin, heptachlor epoxide, total chlordane (and associated compounds)[8], and toxaphene.

- **SVOCs**. SVOC COIs were investigated by EPA in 2005. Most SVOCs were either nondetected or detected infrequently (i.e., <1 percent of all the samples) (see Table 6-3). Most low molecular weight SVOCs would not be expected to occur in sediments because of their low octanol-water partition coefficients (typically less than log K_{ow} of 3). SVOCs were evaluated following the same criteria as discussed above for pesticides.

  The following SVOCs did not exceed their respective screening SEVs and will not be carried forward to the BERA: 1,2,4-trichlorobenzene, 4-methylphenol (p-cresol), benzoic acid, carbazole, and dibenzofuran.

  The following SVOCs did not have a screening SEV and are carried forward to the BERA—2,2'-oxybis(1-chloropropane), 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 2-methylphenol (o-cresol), 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-chloroaniline, 4-chlorophenyl-phenyl ether, 4-nitroaniline, 4-nitrophenol, acetophenone, benzaldehyde, benzyl alcohol, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, caprolactam, isophorone, nitrobenzene, N-nitrosodi-n-propylamine, N-nitrosodiphenylamine, pentachlorophenol, hexachlorocyclopentadiene, and phenol.

  The following SVOCs had a sufficient number of samples with detection limits below the screening SEV value and had sufficient spatial coverage (see Appendix Figures B-11 through B-20 for sample distributions) and can be screened out from the BERA—1,1'-biphenyl, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 4-bromophenyl-phenylether, bis(2-ethylhexyl)phthalate, butyl benzyl phthalate, diethyl phthalate, di-n-butyl phthalate, and hexachloroethane.

[8] One sample for total chlordane exceeded the SEV. However, this was due to summing the full DLs on individual compounds and is likely an overestimate.

dimethyl phthalate and di-n-octylphthalate had detection limits above the screening SEV concentrations in all samples; therefore, they will be evaluated further in the BERA.

Results of the soil screening analysis are presented in Table 6-4. Metals/metalloids were the only COI group in the existing soil data. The available data were compared to the SEVs (i.e., EPA Eco-SSLs). Several soil samples contained concentrations of arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, vanadium, and zinc that exceeded Eco-SSLs. Silver and beryllium were below Eco-SSLs in all soil samples (Table 6-4). Because of the lack of spatial coverage, limited number of analytes measured and lack of available SEVs, all soil COIs will be carried forward to the BERA.

6.3.4 Aquatic-Dependent Wildlife

Results of the aquatic-dependent wildlife screening analysis are summarized in Table 6-5. COIs that can be screened out from further analysis of risks to aquatic-dependent wildlife are:

- Beryllium (mammals only)
- Silver
- Total LPAHs.

COIs that exceed a HQ of 1.0 in at least one area for at least one receptor include the following:

- Antimony
- Arsenic
- Barium
- Cadmium
- Chromium^{+3}
- Cobalt
- Copper
- Lead
- Manganese
- Mercury (methyl)
- Selenium
- Nickel
- Vanadium
- Zinc
- Dioxins/furans
- Total HPAHs
- Total DDTs
- Total PCBs.

The COIs that exceeded a HQ of 1.0 and those that did not have a toxicity reference value identified will require further evaluation in the BERA.

6.4 UNCERTAINTY EVALUATION

The primary objective of this SLERA was to use existing data to determine whether COIs in various exposure media pose insignificant ecological risk and can be removed from further analysis in the BERA. The approach followed the standard risk assessment paradigm of comparing exposure concentrations to SEVs. This entailed the use of very conservative assumptions about exposure and toxic response levels. The following discussion summarizes the primary uncertainties associated with this screening level risk assessment. Uncertainties specific to the aquatic-dependent wildlife SLERA are discussed in Appendix D.

Exposure Characterization

- **Surface Water Data.** Surface water chemistry data collected between 2000 and 2006 are limited spatially to Northport. Accordingly, temporal and spatial variations in surface water quality throughout the UCR are uncertain and represent a data gap. Although the evaluation of existing data resulted in a limited number of COIs with HQs greater than 1.0, all COIs for surface water will be carried forward in the BERA.
- **Porewater Data.** Porewater chemistry data for the UCR are limited. Most of the data were collected to support interpretation of the USEPA (2006a) sediment bioassays, and are not considered representative of *in situ* conditions due to the sampling and processing techniques used at this time. These data will be evaluated further in the BERA. Accordingly, current porewater chemical concentrations throughout the UCR are considered uncertain and represent a data gap. All COIs for porewater will be carried forward in the BERA.
- **Sediment Data.** Screening SEVs are not available for all inorganic and organic COIs, because of this data gap. These COIs will be carried forward in the BERA.
- **Soil Data.** A recent comprehensive soil sampling program has not been conducted throughout the Site. Accordingly, temporal and spatial variations of COIs in soils throughout the UCR in association with the lack of SEVs remains an uncertainty and represent a data gap. Further evaluation of COIs in soils will be conducted in the BERA.
- **Bioaccumulatives.** COIs in aquatic organisms (e.g., fish and invertebrates) provide an exposure pathway for higher trophic level fish and for fish-eating (piscivorous) wildlife. For screening purposes, the consensus approach used was to carry forward for a more detailed analysis in the BERA any of the organic chemicals that had the potential to bioaccumulate. As described previously (Section 4.3), this included any COI with a log $K_{ow} \geq 4$. This is a reasonable screening approach, and therefore is not likely to screen out any chemicals that

may be found in aquatic organisms; on the contrary, there may be some chemicals with little bioaccumulation potential that are carried forward in the BERA.

Effects Characterization

- **Surface Water and Porewater SEVs.** The surface water and porewater SEVs were based on EPA's AWQC or Canadian guidelines, and are generally assumed by the scientific community to be adequately protective of aquatic biota, although it is possible that there may be some sensitive species for which these criteria are not protective. In general, these criteria, standards, and guidelines do not fully account for the bioavailability of metals in surface water and porewater (USEPA 2007a), and as such, are a conservative estimate of toxicity thresholds. The exception is EPA's water quality criterion for copper which attempts to account for bioavailability (USEPA 2004g). For several metals, the AWQC are adjusted to the site-specific hardness values to better reflect site-specific bioavailability, but other factors in natural waters, such as DOC, can further reduce bioavailability (e.g., Di Toro et al. 1991, 2001, 2005). Accordingly, the SEVs used in this SLERA likely overestimate COI bioavailability and represent an uncertainty. In addition, because SEVs were unavailable for a number of COIs in surface water and porewater, the potential risks posed by those COIs are unknown and represent a data gap.
- **Sediment SEVs.** Because sediment SEVs were not available for a number of COIs, the potential risks posed by those COIs remain unknown and represent an uncertainty. In addition, the sediment SEVs used in this SLERA do not fully account for the site-specific bioavailability of metals. Thus, the SEVs may overestimate COI bioavailability, which represents an uncertainty.

7 SCIENTIFIC MANAGEMENT DECISION POINT EVALUATION

Results of the SLERA represent the first SMDP specified in the EPA eight-step ERA process (USEPA 1997a). Specifically, based on the SLERA results, one of the following three decisions is made for each COI in each environmental medium:

1. There is adequate information to conclude that the COI does not pose an unacceptable ecological risk, and therefore there is no need carry the COI forward in the ecological risk assessment process;
2. The available information is not adequate to make a risk decision at this point, so the COI will be carried forward in the ecological risk assessment process; or
3. The available information indicates that the COI may pose an unacceptable ecological risk, so it will be carried forward in the ecological risk assessment process.

The SMDP decisions for COIs with available surface water, porewater, or sediment data from the UCR between 2000 and 2006 are summarized in Table 7-1. A reasonable screening approach was used to evaluate the COIs for: 1) toxicity of COIs in surface water to aquatic life, 2) toxicity of COIs in sediments to benthic invertebrates, and 3) bioaccumulation potential of COIs to tissues. The SMDPs for these ecological measures are summarized below.

7.1 SURFACE WATER AND POREWATER

Available surface water and porewater data are currently limited spatially and include few measurements of COI analytes other than selected metals and metalloids. Therefore, because of the limitations of the extant data, all COIs (see Table 3-1) will be carried forward in the ecological risk assessment process. Refinement of COIs for surface water and porewater is expected to occur after additional data are collected throughout the UCR.

7.2 SEDIMENT

There is an extensive data set available for many COIs throughout the UCR. Using a conservative approach to evaluate the toxicity of COIs in sediment to benthic invertebrate receptors, the results of the SLERA indicate that:

- All metal and metalloid COIs will be carried forward because they either lack SEVs or exceed SEVs.
- All dioxin and furan COIs will be carried forward because of SEV exceedances.

- PAHs and PCBs, singly or summed, did not exceeded respective SEVs for sediment. However, because these are bioaccumulative substances (log K_{ow} >4.0) they will be further evaluated in the BERA in biotic tissues.
- PBDEs will be carried forward to the BERA due to lack of data and SEVs.
- A number of pesticides exceeded SEVs or did not have screening SEVs and these will be carried forward to the BERA: DDT and its metabolites, methoxychlor, aldrin, atrazine, alpha-BHC, beta-BHC, endrin aldehyde, endrin ketone, endosulfan sulfate, heptachlor, hexachlorobenzene, and hexachlorobutadiene.
- A number of SVOCs exceeded SEVs or did not have a screening SEV and are carried forward to the BERA: 2,2'-oxybis(1-chloropropane), 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 2-methylphenol (o-cresol), 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-chloroaniline, 4-chlorophenyl-phenyl ether, 4-nitroaniline, 4-nitrophenol, acetophenone, benzaldehyde, benzyl alcohol, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, caprolactam, dimethylphthalate, di-n-octylphthalate, isophorone, nitrobenzene, N-nitrosodi-n-propylamine, N-nitrosodiphenylamine, pentachlorophenol, hexachlorocyclopentadiene, and phenol.

7.3 SOIL

The results of the soil screening analysis identified the following COIs as exceeding SEVs: arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, vanadium, and zinc. Because of the lack of data and SEVs however, all soil COIs (metals/metalloids and organics) will be carried forward to the BERA.

7.4 TISSUE

Bioaccumulative organic COIs (i.e., log K_{ow} > 4.0) that will be carried forward include dioxins and furans, PAHs, PCBs, PBDEs, pesticides (i.e., DDT and its metabolites, aldrin, alpha-chlordane, cis-nonachlor, delta-BHC, dieldrin, endrin, endrin aldehyde, endrin ketone, gamma-chlordane, heptachlor, heptachlor epoxide, hexachlorobenzene, hexachlorobutadiene, methoxychlor, oxychlordane, toxaphene, trans-nonachlor), and SVOCs (i.e., 1,1'-biphenyl, 1,2,4-trichlorobenzene, 4-bromophenyl-phenylether, 4-chlorophenyl-phenyl ether, bis(2-ethylhexyl)phthalate, butyl benzyl phthalate, dibenzofuran, di-n-butyl phthalate, di-n-octylphthalate, hexachlorocyclopentadiene, hexachloroethane, and pentachlorophenol).

All metals will be carried forward for analysis in tissue, because they cannot be screened out based on a critical body burden approach (SETAC Pellston workshop 2007).

COIs that will not be carried forward because they have a log K_{ow} <4.0 include:

- **Pesticides.** Atrazine, alpha-BHC, beta-BHC, gamma-BHC (lindane), endosulfan I, endosulfan II, endosulfan sulfate.
- **SVOCs.** 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2,2'-oxybis(1-chloropropane), 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 2-methylphenol (o-cresol), 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-chloroaniline, 4-methylphenol (p-cresol), 4-nitroaniline, 4-nitrophenol, acetophenone, benzaldehyde benzoic acid, benzyl alcohol, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, caprolactam, carbazole, diethyl phthalate, dimethyl phthalate, isophorone, nitrobenzene, n-nitrosodi-n-propylamine, n-nitrosodiphenylamine, and phenol.

7.5 AQUATIC-DEPENDENT WILDLIFE

The results of the aquatic-dependent wildlife SLERA are summarized in Table 6-5. The COIs that can be screened out from further analysis of risks to aquatic-dependent wildlife include beryllium (mammals only), silver, and Total LPAHs. All other COIs will require further evaluation in the BERA.

7.6 SUMMARY OF CHEMICALS OF INTEREST NOT CARRIED FORWARD TO THE BASELINE ECOLOGICAL RISK ASSESSMENT

The following is a listing of all the COIs that will not be evaluated further in the BERA for aquatic organisms exposed to sediments. These results are shown in Table 7-1 which also presents the data as a function of matrix and biota:

- **Pesticides.** Delta-BHC, gamma-BHC, dieldrin, endosulfan I, endosulfan II, endrin, heptachlor epoxide, alpha-chlordane, gamma-chlordane, cis-nonachlor, trans-nonachlor, oxychlordane, total chlordane, and toxaphene.
- **SVOCs.** 1,2,4-trichlorobenzene, 4-methylphenol (p-cresol), 1,1'-biphenyl, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 4-bromophenyl-phenylether, benzoic acid, bis(2-ethylhexyl)phthalate, butyl benzyl phthalate, carbazole, dibenzofuran, diethyl phthalate, di-n-butyl phthalate, and hexachloroethane.

The following is a listing of all the COIs that will not be evaluated further in the BERA for bioaccumulative potential in tissues of aquatic organisms:

- **Pesticides.** Atrazine, alpha-BHC, beta-BHC, gamma-BHC (lindane), endosulfan I, endosulfan II, and endosulfan sulfate.

- **SVOCs.** 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2,2'-oxybis(1-chloropropane), 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 2-methylphenol (o-cresol), 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-chloroaniline, 4-methylphenol (p-cresol), 4-nitroaniline, 4-nitrophenol, acetophenone, benzaldehyde, benzoic acid, benzyl alcohol, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, caprolactam, carbazole, diethyl phthalate, dimethyl phthalate, isophorone, nitrobenzene, n-nitrosodi-n-propylamine, n-nitrosodiphenylamine, and phenol.

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FIGURES

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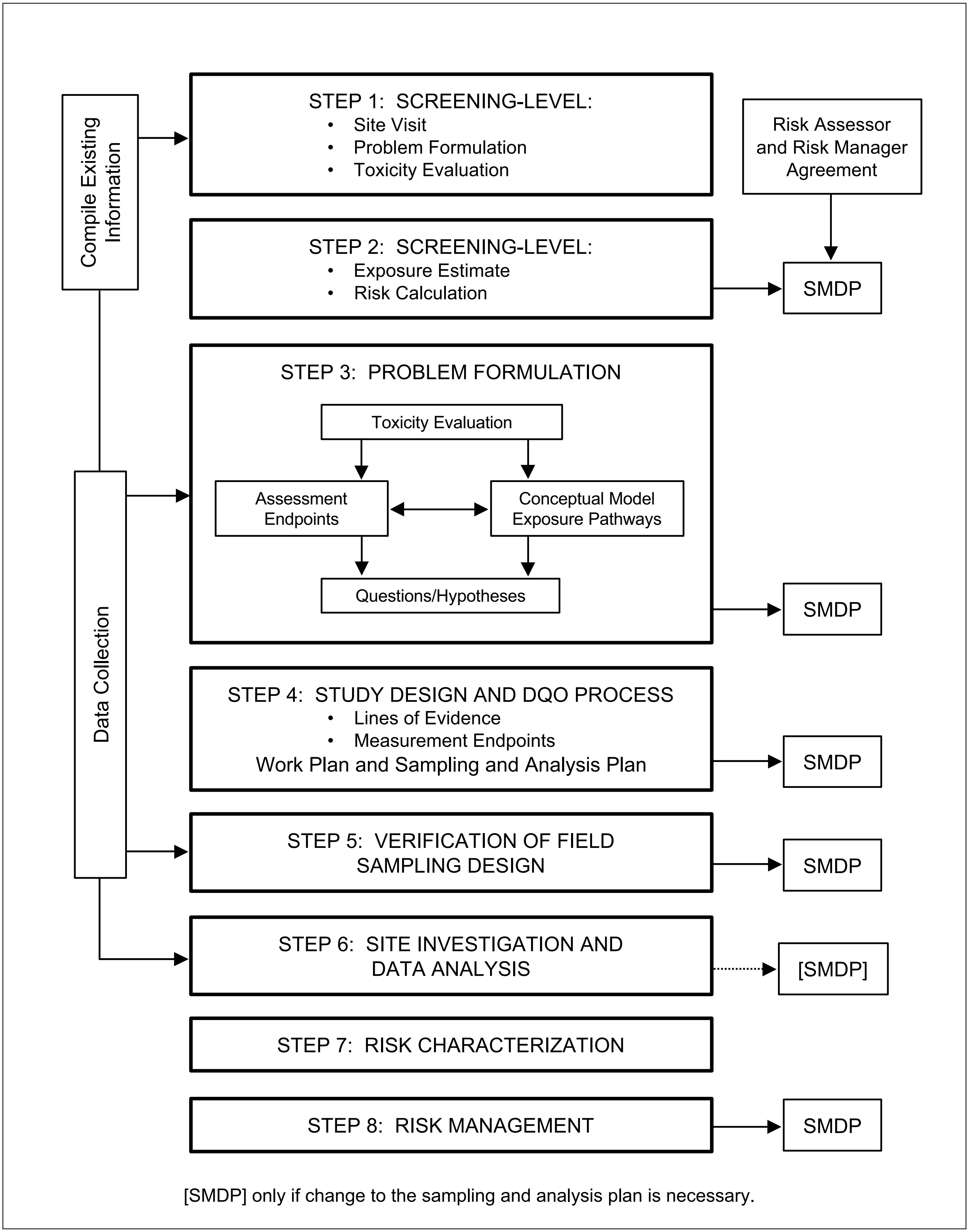


Figure 1-1a. **Eight-step Ecological Risk Assessment Process for Superfund (Source: USEPA 1997a)**

Upper Columbia River, WA

Steps in the Ecological Risk Assessment Process and Corresponding Decision Points in the Superfund Process

Steps and Scientific/Management Decision Points (SMDPs):

1.	Screening-Level Problem Formulation and Ecological Effects Evaluation	
2.	Screening-Level Preliminary Exposure Estimate and Risk Calculation	SMDP (a)
3.	Baseline Risk Assessment Problem Formulation	SMDP (b)
4.	Study Design and Data Quality Objectives	SMDP (c)
5.	Field Verification of Sampling Design	SMDP (d)
6.	Site Investigation and Analysis of Exposure and Effects	[SMDP]
7.	Risk Characterization	
8.	Risk Management	SMDP (e)

Corresponding Decision Points in the Superfund Process:

(a) Decision about whether a full ecological risk assessment is necessary.

(b) Agreement among the risk assessors, risk manager, and other involved parties on the conceptual model,including assessment endpoints, exposure pathways, and questions or risk hypotheses.

(c) Agreement among the risk assessors and risk manager on the measurement endpoints, study design, and data interpretation and analysis.

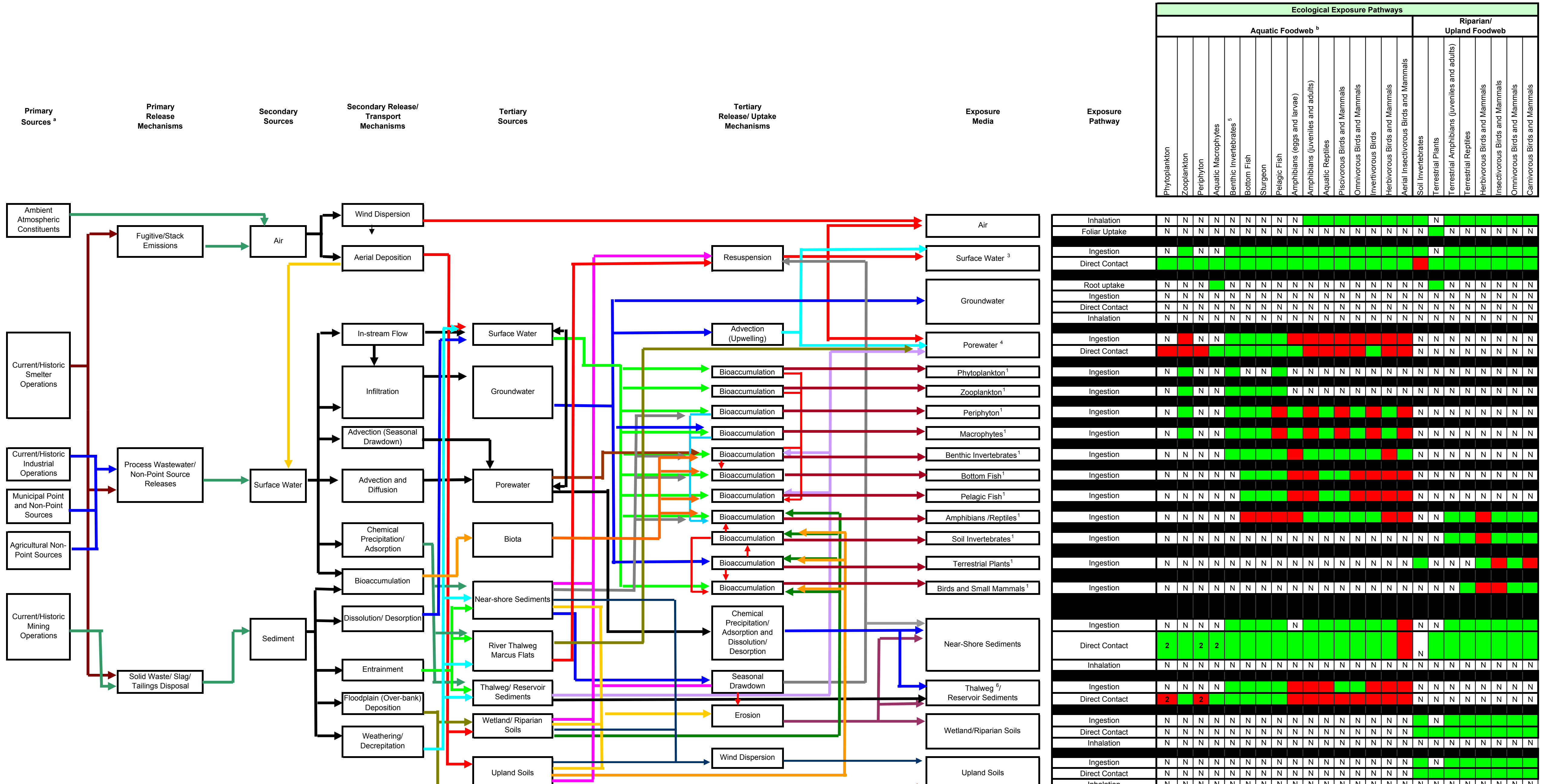
(d) Signing approval of the work plan and sampling and analysis plan for the ecological risk assessment.

(e) Signing the Record of Decision.

[SMDP] only if change to the sampling and analysis plan is necessary.

Figure 1-1b. **Eight-step Ecological Risk Assessment Process for Superfund (Source: USEPA 1997a)**

Upper Columbia River, WA



[a] Note that the different colors used for the arrows linking the boxes were selected to help distinguish the various linkages visually, and have no technical meaning.

[b] Note that differential exposure pathways exist for different lifestages of some receptors (fish and amphibian eggs, larvae, adults). These will need to be considered/outlined in the final CSM.

LEGEND

(green)	= Exposure Pathway Potentially Complete
(red)	= Incomplete Exposure Pathway
N	= Pathway Not Applicable

Footnotes	
1	Upon death, Receptor contributes, as solid-phase and liquid-phase detritus to the dietary, dermal, and incidental ingestion pathways….dietary is probably of importance.
2	Chemisorption onto external organic material.
3	Surface water may be affected by groundwater discharge from the side banks during pool drawdown.
4	Porewater may be affected or replaced via groundwater advection.
5	Includes mussels.
6	Thalweg refers to the pre-reservoir channel.

Figure 3-1. Screening Level Ecological Conceptual Site Model

Upper Columbia River, WA

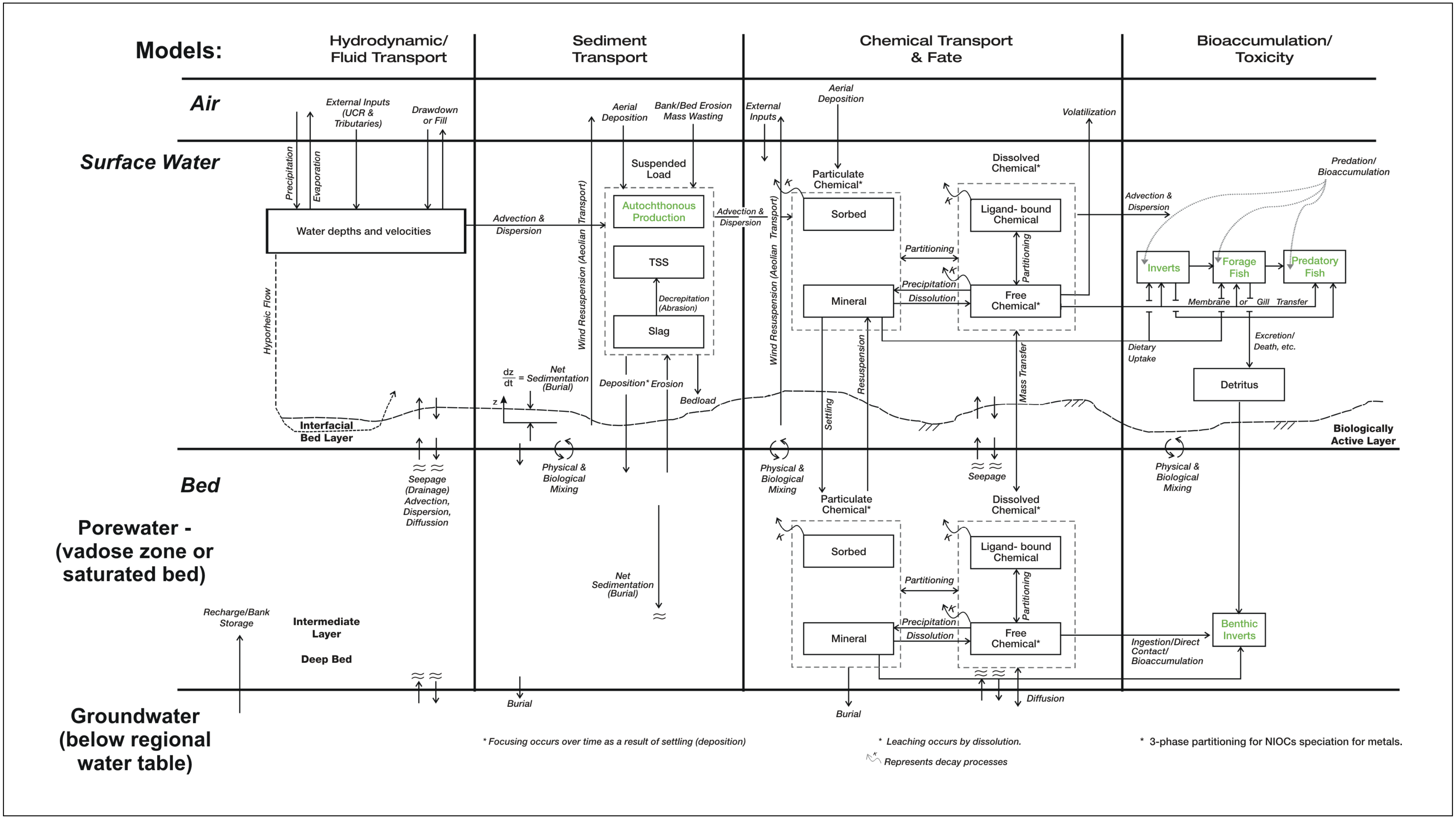
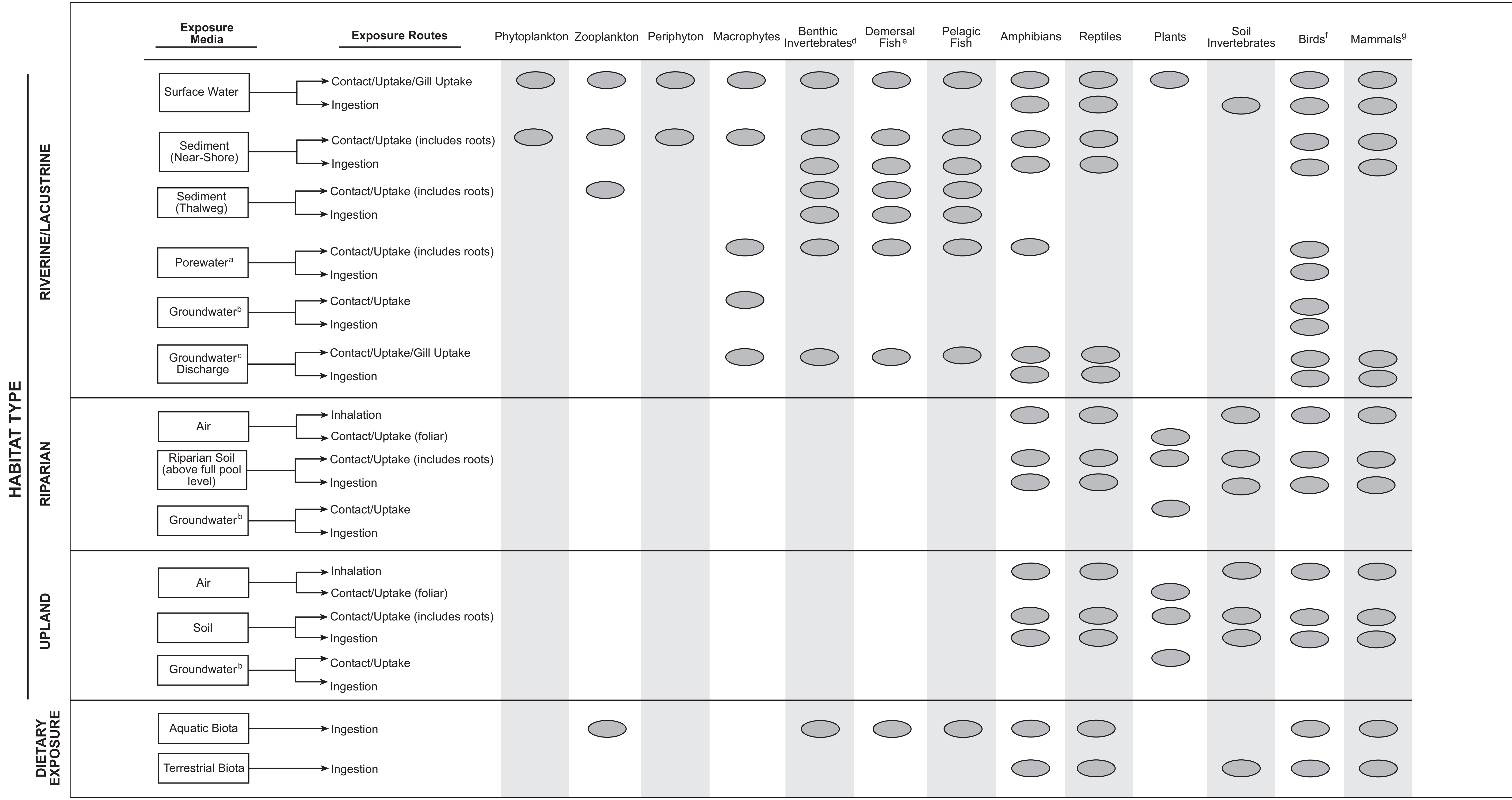


Figure 3-2. General Transport and Fate Processes



Footnotes:

[a] Porewater: water beneath the sediment surface (may be affected or replaced by groundwater).

[b] Groundwater: water beneath the sediment or soil surface (porewater may be affected or replaced by groundwater).

[c] Groundwater discharge: water emanating from the banks.

[d] Includes mussels.

[e] Includes sturgeon.

[f] Includes insectivores, piscivores, carnivores (wading, and sediment probing).

[g] Includes insectivores, piscivores, carnivores, and omnivores herbivores.

Legend:

Pathway Potentially Complete

Draft

Figure 3-3. **General Exposure Pathways and Receptor Groups**
Upper Columbia River, WA

MAPS

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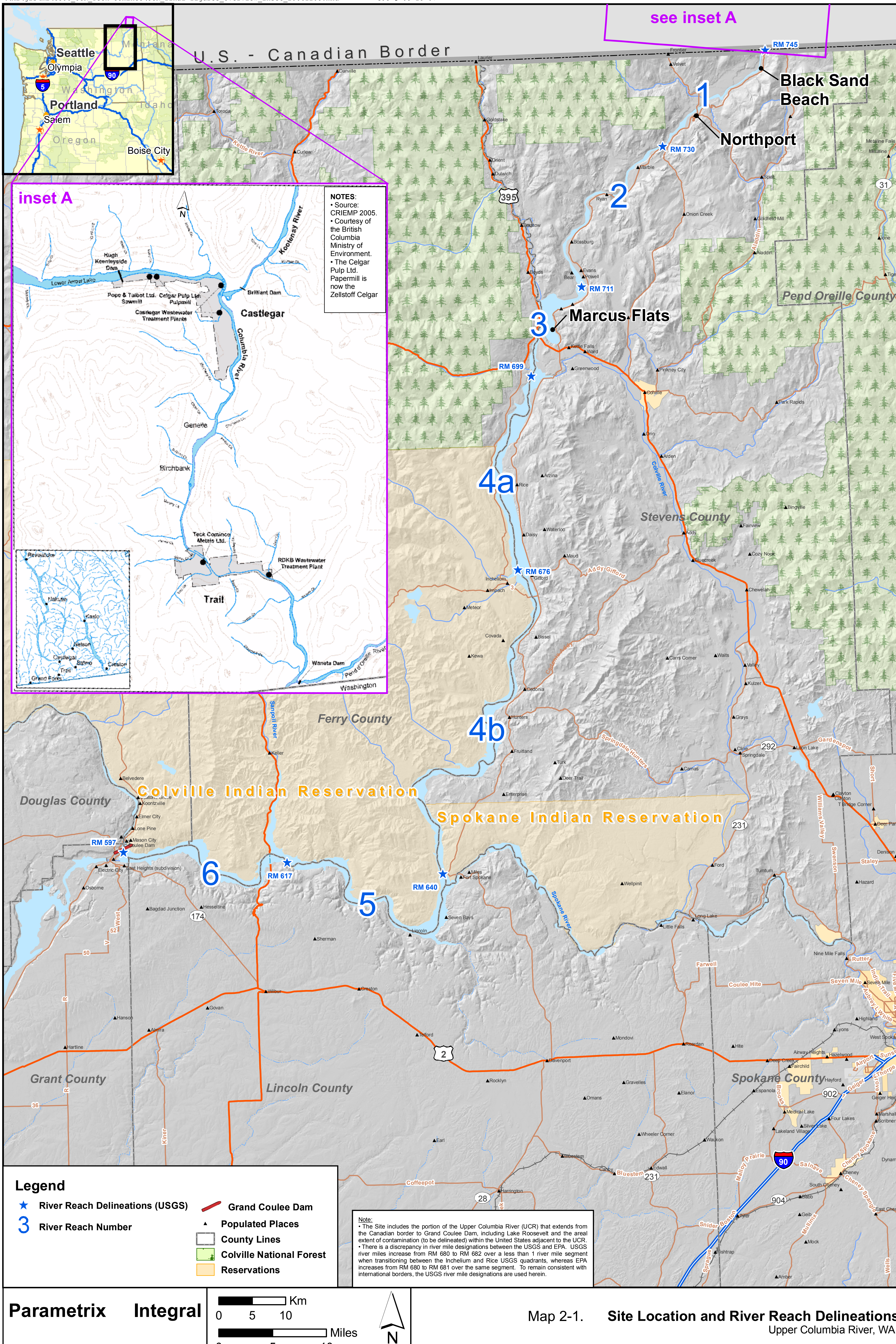

Parametrix Integral

Map 2-1. **Site Location and River Reach Delineations**
Upper Columbia River, WA

TABLES

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ES-1. Chemicals of Interest Identified in the SLERA as Posing Negligible Ecological Risk and Therefore Do Not Require Further Investigation.

	COIs That Do Not Require Further Evaluation by Media and Associated Ecological Receptor Group					
Chemicals of Interest (COIs)	Surface Water (aquatic life)	Porewater (aquatic life)	Sediment (benthic invertebrates)	Bioaccumulation Potential (aquatic biota tissues)	Soil (terrestrial plants, invertebrates, birds and mammals)	Aquatic Dependent Wildlife Dietary Exposure (birds and mammals)
Metals/Metalloids	BERA [a]	BERA	BERA	BERA	BERA	Ag, Be (mammals)
Nutrients	BERA	BERA	BERA	BERA	BERA	BERA
Semi-volatile organic compounds (SVOCs)	BERA	BERA	1,2,4-trichlorobenzene 4-methylphenol 1,1'-biphenyl 1,2-dichlorobenzene 1,3-dichlorobenzene 1,4 dichlorobenzene 4-bromophenyl-phenylether Carbazole Benzoic acid Bis(2-ethylhexyl)phthalate Butyl benzyl phthalate Dibenzofuran Diethyl phthalate Di-n-butyl phthalate Hexachloroethane	1,2-dichlorobenzene 1,3-dichlorobenzene 1,4-dichlorobenzene 2,2'oxybis(1-chloropropane) 2,4,5-trichlorophenol 2,4,6-trichlorophenol 2,4-dichlorophenol 2,4-dimethylphenol 2,4-dinitrophenol 2,4-dinitrotoluene 2,6-dinitrotoluene 2-chloronaphthalene 2-chlorophenol 2-methylphenol 2-nitroaniline 2-nitrophenol 3,3'-dichlorobenzidine 3-nitroaniline 4,6-dinitro-2-methylphenol 4-chloro-3-methylphenol 4-chloroaniline 4 methylphenol 4-nitroaniline 4-nitrophenol Acetophenone Benzaldehyde Benzoic acid Benzyl alcohol Bis(2-chloroethoxy)methane Bis(2-chloroethyl)ether Caprolactam Carbazole Diethyl phthalate Dimethyl phthalate Isophorone Nitrobenzene N-nitrosodi-n-propylamine N-nitrosodiphenylamine Phenol	BERA	BERA
Pesticides	BERA	BERA	Delta-BHC Lindane Dieldrin Endosulfan I Endosulfan II Endrin Heptachlor epoxide Alpha-chlordane Gamma-chlordane Cis-nonachlor	Atrazine Alpha-BHC Beta-BHC Endosulfan I Endosulfan II Endosulfan sulfate Lindane	BERA	BERA

ES-1. Chemicals of Interest Identified in the SLERA as Posing Negligible Ecological Risk and Therefore Do Not Require Further Investigation.

	COIs That Do Not Require Further Evaluation by Media and Associated Ecological Receptor Group						
Chemicals of Interest (COIs)	Surface Water (aquatic life)	Porewater (aquatic life)	Sediment (benthic invertebrates)	Bioaccumulation Potential (aquatic biota tissues)		Soil (terrestrial plants, invertebrates, birds and mammals)	Aquatic Dependent Wildlife Dietary Exposure (birds and mammals)
			Trans-nonachlor				
			Oxychlordane				
			Total chlordane				
			Toxaphene				
Polycyclic aromatic hydrocarbons (PAHs)	BERA	BERA	PAHs	BERA	BERA	BERA	LPAHs
Polychlorinated Biphenyls (PCBs)	BERA	BERA	PCBs	BERA	BERA	BERA	BERA
Polybrominated Diphenylethers (PBDEs)	BERA	BERA	BERA	BERA	BERA	BERA	BERA
Polychlorinated Dibenzodioxins and Dibenzofurans (TCDDs/TCDFs)	BERA	BERA	BERA	BERA	BERA	BERA	BERA

Notes:

[a] BERA: COIs listed in this table will not be further evaluated for the receptor group indicated, all other COIs (as listed in Table 3-1) will be further evaluated in the BERA.

Table 3-1. Chemicals of Interest for the UCR SLERA

Chemical Group	Analyte(s)
Common Metals and Metalloids	Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Fluoride, Gold, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Sulfur, Tin, Thallium, Uranium, Vanadium, Zinc
Other Metals and Metalloids	Bismuth, Cerium, Cesium, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Germanium, Holmium, Indium, Lanthanum, Lithium, Lutetium, Neodymium, Niobium, Praseodymium, Rubidium, Samarium, Scandium, Strontium, Tantalum, Tellurium, Terbium, Thorium, Thulium, Titanium, Tungsten, Ytterbium, Yttrium, Zirconium
Nutrients	Ammonia, Nitrite-Nitrate, Phosphorous
Semi-volatile Organic Compounds (SVOCs)	1,1'-Biphenyl, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2,2'-oxybis(1-chloropropane), 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 2,4-Dinitrophenol 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-Chloronaphthalene, 2-Chlorophenol, 2-Methylphenol (o-cresol), 2-Nitroaniline, 2-Nitrophenol, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4,6-Dinitro-2-methylphenol, 4-Bromophenyl-phenylether, 4-Chloro-3-methylphenol, 4-Chloroaniline, 4-Chlorophenyl-phenyl ether, 4-Methylphenol (p-cresol), 4-Nitroaniline, 4-Nitrophenol, Acetophenone, Benzaldehyde, Benzoic acid, Benzyl alcohol, bis(2-Chloroethoxy)methane, Bis(2-chloroethyl)ether, Bis(2-ethylhexyl)phthalate, Butyl benzyl phthalate, Caprolactam, Carbazole, Dibenzofuran, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octylphthalate, Hexachlorobenzene, Hexachlorocyclopentadiene, Hexachloroethane, Isophorone, Nitrobenzene, N-Nitrosodi-n-propylamine, N-Nitrosodiphenylamine, Pentachlorophenol, Phenol
Polycyclic Aromatic Hydrocarbons (PAHs)	<u>High Molecular Weight PAHs</u>: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Indeno[1,2,3-cd]pyrene <u>Low Molecular Weight PAHs</u>: Anthracene, 2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, Pyrene
Pesticides	2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, alpha-BHC, alpha Chlordane, Atrazine, beta-BHC, cis-Nonachlor, delta-BHC, Dieldrin, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin aldehyde, Endrin ketone, gamma-BHC (Lindane), gamma-Chlordane, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorobutadiene, Methoxychlor, Oxychlordane, Toxaphene, trans-Nonachlor
Polychlorinated Biphenyls (PCBs)	Aroclor 1016, Aroclor 1221, Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260, PCB Congeners (209 forms)
Polybrominated Diphenylethers (PBDEs)	PBDE-47, PBDE-66, PBDE-71, PBDE-99, PBDE-100, PBDE-138, PBDE-153, PBDE-154, PBDE-183, PBDE-184, PBDE-191, PBDE-209
Polychlorinated Dibenzo-p-dioxins (PCDDs)	1,2,3,4,6,7,8-Heptachlorodibenzodioxin, 1,2,3,4,7,8-Hexachlorodibenzodioxin, 1,2,3,6,7,8-Hexachlorodibenzodioxin, 1,2,3,7,8,9-Hexachlorodibenzodioxin, 1,2,3,7,8-Pentachlorodibenzodioxin, 2,3,7,8-Tetrachlorodibenzodioxin, Octachlorodibenzodioxin
Polychlorinated Dibenzo-furans (PCDFs)	1,2,3,4,6,7,8-Heptachlorodibenzofuran, 1,2,3,4,7,8,9-Heptachlorodibenzofuran, 1,2,3,4,7,8-Hexachlorodibenzofuran, 1,2,3,6,7,8-Hexachlorodibenzofuran, 1,2,3,7,8-Pentachlorodibenzofuran, 1,2,3,7,8-Pentachlorodibenzofuran, 2,3,4,6,7,8-Hexachlorodibenzofuran, 2,3,4,7,8-Pentachlorodibenzofuran, 2,3,7,8-Tetrachlorodibenzofuran (TCDF), Octachlorodibenzofuran

Notes:

- This list was generated based on a review of analytes evaluated in the following investigations: Bortleson et al. (2001); Cox et al. (2005); Paulson et al. (2006); USEPA (2002a,b, 2003a, 2006a); Ecology (2001, 2006a,b); Golding (1996); G3 Consulting (2001b); TCAI (2008).

Table 3-2. Screening Ecological Assessment Endpoints

Receptor Class	Assessment Endpoint	SLERA Risk Question
Aquatic organisms (i.e., aquatic plants, aquatic invertebrates [including mussels], and fish)	Protection from adverse effects on growth, survival, and reproduction of aquatic organisms (i.e., aquatic plants, aquatic invertebrates, and fish) associated with exposure to hazardous substances in surface water.	Are the concentrations of COIs in surface water at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of aquatic organisms (i.e., aquatic plants, aquatic invertebrates, and fish)?
Benthic organisms (benthic invertebrates, including mussels)	Protection of aquatic organisms (i.e., benthic invertebrates) from adverse effects on survival, growth, or reproduction associated with exposure to hazardous substances in sediment and porewater?	Are the concentrations of COIs in sediment at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of aquatic organisms (i.e, benthic invertebrates)?
		Are the concentrations of COIs in porewawter at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of aquatic organisms (i.e, benthic invertebrates)?
Fish (including sturgeon)	Protection from adverse effects on growth, survival, and reproduction of fish associated with exposure to hazardous substances in surface water	Are the concentrations of COIs in surface water at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of fish?
	Protection from adverse effects on growth, survival, and reproduction of fish associated with exposure to hazardous substances in sediment	Are the concentrations of COIs in sediment at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of fish?
	Protection from adverse effects on growth, survival, and reproduction of fish associated with exposure to hazardous substances in prey items	Are the concentrations of COIs in prey items at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of fish?
Amphibians	Protection from adverse effects on growth, survival, and reproduction of amphibians associated with exposure to hazardous substances in surface water	Are the concentrations of COIs in surface water at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of amphibians?
	Protection from adverse effects on growth, survival, and reproduction of amphibians associated with exposure to hazardous substances in sediment	Are the concentrations of COIs in sediment at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of amphibians?
	Protection from adverse effects on growth, survival, and reproduction of amphibians associated with exposure to hazardous substances in prey items	Are the concentrations of COIs in prey items at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of amphibians?
	Protection from adverse effects on growth, survival, and reproduction of amphibians associated with exposure to hazardous substances in soil	Are the concentrations of COIs in soil greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of amphibians?
Reptiles	Protection from adverse effects on growth, survival, and reproduction of reptiles associated with exposure to hazardous substances in surface water	Are the concentrations of COIs in surface water at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of reptiles?

Table 3-2. Screening Ecological Assessment Endpoints

Receptor Class	Assessment Endpoint	SLERA Risk Question
	Protection from adverse effects on growth, survival, and reproduction of reptiles associated with exposure to hazardous substances in sediment	Are the concentrations of COIs in sediment at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of reptiles?
	Protection from adverse effects on growth, survival, and reproduction of reptiles associated with exposure to hazardous substances in prey items	Are the concentrations of COIs in prey items at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of reptiles?
	Protection from adverse effects on growth, survival, and reproduction of reptiles associated with exposure to hazardous substances in soil	Are the concentrations of COIs in soil greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of reptiles?
Birds	Protection from adverse effects on growth, survival, and reproduction of birds associated with exposure to hazardous substances in surface water	Are the concentrations of COIs in surface water at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of birds?
	Protection from adverse effects on growth, survival, and reproduction of birds associated with exposure to hazardous substances in sediment	Are the concentrations of COIs in sediment at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of birds?
	Protection from adverse effects on growth, survival, and reproduction of birds associated with exposure to hazardous substances in prey items	Are the concentrations of COIs in prey items at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of birds?
	Protection from adverse effects on growth, survival, and reproduction of birds associated with exposure to hazardous substances in soil	Are the concentrations of COIs in soil greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of birds?
Mammals	Protection from adverse effects on growth, survival, and reproduction of mammals associated with exposure to hazardous substances in surface water	Are the concentrations of COIs in surface water at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of mammals?
	Protection from adverse effects on growth, survival, and reproduction of mammals associated with exposure to hazardous substances in sediment	Are the concentrations of COIs in sediment at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of mammals?
	Protection from adverse effects on growth, survival, and reproduction of mammals associated with exposure to hazardous substances in prey items	Are the concentrations of COIs in prey items at the Site greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of mammals?
	Protection from adverse effects on growth, survival, and reproduction of mammals associated with exposure to hazardous substances in soil	Are the concentrations of COIs in soil greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of mammals?
Soil invertebrates	Protection from adverse effects on growth, survival, and reproduction of soil invertebrates associated with exposure to hazardous substances in soil	Are the concentrations of COIs in soil greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of soil invertebrates?
Plants (riparian and upland)	Protection from adverse effects on growth, survival, and reproduction of plants associated with exposure to hazardous substances in soil	Are the concentrations of COIs in soil greater than the lowest screening ecotoxicity threshold for the protection of growth, survival, or reproduction of plants?

Table 4-1. SLERA Screening Ecotoxicity Values (SEVs) for Surface Water and Sediment Analytes Measured in the UCR

		Surface Water SEVs						Sediment SEVs						
		Dissolved Concentrations					Total Concentrations							
Analyte	Log K_{ow}	Surface Water Screening SEVs for Dissolved Concentrations (μg/L)	Chronic EPA AWQC	Ecology Chronic WQS	Confederated Tribes of the Colville, Aquatic Life Chronic Criteria	Spokane Tribe of Indians, Aquatic Life Chronic Criteria	CCME Screening SEVs for Total Concentrations (μg/L)	Sediment Screening SEVs	Units	TEC	SQS	LAET	Tier 2 ESG	Tier 2 ESG (mg/kg organic carbon)
Nutrients														
Ammonia (un-ionized NH_3)	-	28.7	-	28.7	-	-	19	na	na	na	na	na	na	na
Ammonia (total ammonia)		2070	2070 [a]	2070 [a]	2070 [a]	2070 [a]	900 [a]	na	na	na	na	na	na	na
Cyanide (HCN)	-0.025	5.20	5.2	5.2	5.2	5.2	5	na	na	na	na	na	na	na
Nitrate (NO_3)	-	na	na	na	na	na	13000	na	na	na	na	na	na	na
Nitrite (NO_2)	-	na	na	na	na	na	60	na	na	na	na	na	na	na
Phosphorous	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Metals/Metalloids														
Aluminum	-	87	87	na	87	87	100 [a]	na	na	na	na	na	na	na
Antimony	-	na	na	na	na	na	na	0.4	mg/kg-dry	na	0.4	0.6	na	na
Arsenic	-	150	150	190	150	150	5	9.79	mg/kg-dry	9.79	20	31	na	na
Barium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Beryllium	-	na	na	na	na	na	na	0.46	mg/kg-dry	na	na	0.46	na	na
Bismuth	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Boron	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Cadmium	-	0.19	0.19 [a]	0.77 [a]	0.19 [a]	0.77 [a]	0.017	0.99	mg/kg-dry	0.99	0.60	2.39	na	na
Calcium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Cerium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Cesium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Chloride	-	230000	230000	230000	230000	230000	na	na	na	na	na	na	na	na
Chromium (III)	-	53	53 [a]	128 [a]	53 [a]	53 [a]	8.9	43.4	mg/kg-dry	43.4	95	95	na	na
Cobalt	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Copper	-	6.4	6.4 [a]	8.1 [a]	6.4 [a]	6.4 [a]	0.1	31.6	mg/kg-dry	31.6	80	619	na	na
Dysprosium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Erbium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Europium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Fluoride	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Gadolinium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Gallium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Germanium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Gold	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Holmium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Indium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Iron	-	1000	1000	na	1000	1000	300	na	na	na	na	na	na	na
Lanthanum	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Lead	-	1.6	1.6 [a]	1.6 [a]	1.6 [a]	1.6 [a]	0.1	35.8	mg/kg-dry	35.8	335	335	na	na
Lithium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Lutetium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Magnesium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury	-	0.012	0.8	0.012	0.8	0.012	0.026	0.18	mg/kg-dry	0.18	0.50	0.80	na	na
Molybdenum	-	na	na	na	na	na	73	na	na	na	na	na	na	na
Neodymium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Nickel	-	37	37 [a]	112 [a]	37 [a]	37 [a]	65 [a]	22.7	mg/kg-dry	22.7	60.0	53.1	na	na
Niobium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Phosphorous	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Potassium	-	na	na	na	na	na	na	na	na	na	na	na	na	na

Table 4-1. SLERA Screening Ecotoxicity Values (SEVs) for Surface Water and Sediment Analytes Measured in the UCR

		Surface Water SEVs						Sediment SEVs						
		Dissolved Concentrations					Total Concentrations							
Analyte	Log K_{ow}	Surface Water Screening SEVs for Dissolved Concentrations (µg/L)	Chronic EPA AWQC	Ecology Chronic WQS	Confederated Tribes of the Colville, Aquatic Life Chronic Criteria	Spokane Tribe of Indians, Aquatic Life Chronic Criteria	CCME Screening SEVs for Total Concentrations (µg/L)	Sediment Screening SEVs	Units	TEC	SQS	LAET	Tier 2 ESG	Tier 2 ESG (mg/kg organic carbon)
Metals/Metalloids (continued)														
Praseodymium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Rubidium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Samarium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Scandium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Selenium	-	5.0	5.0	5.0	5.0	5.0	1.0	na	na	na	na	na	na	na
Silicon (Silica)	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Silver	-	1.6	1.6 [a,b]	1.7 [a,b]	1.6 [a,b]	1.7 [a,b]	0.1	0.545	mg/kg-dry	na	2	0.545	na	na
Sodium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Strontium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Sulfur (Sulfate)	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Tantalum	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Tellurium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Terbium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Thallium	-	na	na	na	na	na	0.8	na	na	na	na	na	na	na
Thorium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Thulium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Tin	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Titanium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Tungsten	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Uranium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Vanadium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Ytterbium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Yttrium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	-	74	84 [a]	74 [a]	84 [a]	74 [a]	30	121	mg/kg-dry	121	140	683	na	na
Zirconium	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Dioxins/Furans														
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	8.20	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,4,6,7,8-Heptachlorodibenzofuran	7.92	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,4,7,8,9-Heptachlorodibenzofuran	7.92	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,4,7,8-Hexachlorodibenzodioxin	8.21	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,4,7,8-Hexachlorodibenzofuran	7.58	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,6,7,8-Hexachlorodibenzodioxin	8.21	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,6,7,8-Hexachlorodibenzofuran	7.58	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,7,8,9-Hexachlorodibenzodioxin	8.21	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,7,8-Pentachlorodibenzofuran	6.79	na	na	na	na	na	na	na	na	na	na	na	na	na
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	6.30	na	na	na	na	na	na	na	na	na	na	na	na	na
2,3,4,6,7,8-Hexachlorodibenzofuran	7.58	na	na	na	na	na	na	na	na	na	na	na	na	na
2,3,4,7,8-Pentachlorodibenzofuran	6.92	na	na	na	na	na	na	na	na	na	na	na	na	na
2,3,7,8-Tetrachlorodibenzodioxin	6.80	na	na	na	na	na	na	na	na	na	na	na	na	na
2,3,7,8-Tetrachlorodibenzofuran	6.53	na	na	na	na	na	na	na	na	na	na	na	na	na
Octachlorodibenzodioxin	8.20	na	na	na	na	na	na	na	na	na	na	na	na	na
Octachlorodibenzofuran	8.60	na	na	na	na	na	na	na	na	na	na	na	na	na
TCDD TEQ	>4.0	na	na	na	na	na	na	0.85 [3]	ng TEQ/kg-dry	na	na	na	na	na
PCBs														
Aroclor 1016	4.38	na	na	na	na	na	na	na	na	na	na	na	na	na
Aroclor 1221	4.09	na	na	na	na	na	na	na	na	na	na	na	na	na
Aroclor 1232	4.54	na	na	na	na	na	na	na	na	na	na	na	na	na

Table 4-1. SLERA Screening Ecotoxicity Values (SEVs) for Surface Water and Sediment Analytes Measured in the UCR

		Surface Water SEVs						Sediment SEVs						
		Dissolved Concentrations					Total Concentrations							
Analyte	Log K_{ow}	Surface Water Screening SEVs for Dissolved Concentrations (µg/L)	Chronic EPA AWQC	Ecology Chronic WQS	Confederated Tribes of the Colville, Aquatic Life Chronic Criteria	Spokane Tribe of Indians, Aquatic Life Chronic Criteria	CCME Screening SEVs for Total Concentrations (µg/L)	Sediment Screening SEVs	Units	TEC	SQS	LAET	Tier 2 ESG	Tier 2 ESG (mg/kg organic carbon)
PCBs (continued)														
Aroclor 1242	4.11	na	na	na	na	na	na	na	na	na	na	na	na	na
Aroclor 1248	6.20	na	na	na	na	na	na	na	na	na	na	na	na	na
Aroclor 1254	6.30	na	na	na	na	na	na	230	µg/kg-dry	na	na	230	na	na
Aroclor 1260	6.80	na	na	na	na	na	na	138	µg/kg-dry	na	na	138	na	na
Total PCBs	>4.0	0.014	0.014	0.014	0.014	0.014	na	59.8	µg/kg-dry	59.8	60	62	na	na
PAHs														
2-Methylnaphthalene	3.86	na	na	na	na	na	na	469	µg/kg-dry	na	470	469	na	na
Acenaphthene	3.92	na	na	na	na	na	5.8	1060	µg/kg-dry	na	1060	1060	na	na
Acenaphthylene	4.07	na	na	na	na	na	na	470	µg/kg-dry	na	470	470	na	na
Anthracene	4.45	na	na	na	na	na	0.012	57.2	µg/kg-dry	57.2	1200	1230	na	na
Benzo(a)anthracene	5.79	na	na	na	na	na	0.018	108	µg/kg-dry	108	4260	4260	na	na
Benzo(a)pyrene	5.97	na	na	na	na	na	0.015	150	µg/kg-dry	150	3300	3300	na	na
Benzo(b)fluoranthene	6.60	na	na	na	na	na	na	11000	µg/kg-dry	na	11000	11000	na	na
Benzo(ghi)perylene	6.63	na	na	na	na	na	na	4020	µg/kg-dry	na	4020	4020	na	na
Benzo(k)fluoranthene	6.84	na	na	na	na	na	na	11000	µg/kg-dry	na	11000	11000	na	na
Chrysene	5.73	na	na	na	na	na	na	166	µg/kg-dry	166	5940	5940	na	na
Dibenzo(a,h)anthracene	6.50	na	na	na	na	na	na	33	µg/kg-dry	33	800	800	na	na
Fluoranthene	5.16	na	na	na	na	na	0.04	423	µg/kg-dry	423	11000	11100	na	na
Fluorene	4.18	na	na	na	na	na	3	77.4	µg/kg-dry	77.4	1000	1070	na	na
Indeno[1,2,3-cd]pyrene	6.70	na	na	na	na	na	na	4120	µg/kg-dry	na	4120	4120	na	na
Naphthalene	3.30	na	na	na	na	na	1.1	176	µg/kg-dry	176	500	529	na	na
Phenanthrene	4.57	na	na	na	na	na	0.4	204	µg/kg-dry	204	6100	6100	na	na
Pyrene	4.88	na	na	na	na	na	0.025	195	µg/kg-dry	195	8800	8790	na	na
Total PAHs	>4.0	na	na	na	na	na	na	1610	µg/kg-dry	1610	na	na	na	na
Polybrominated Diphenylethers (PBDEs)														
Total PBDEs	5.87-8.9	na	na	na	na	na	na	na	na	na	na	na	na	na
Pesticides														
2,4'-DDD	6.02	na	na	na	na	na	na	na	µg/kg-dry	na	na	na	na	na
4,4'-DDD	6.02	na	na	na	na	na	na	96	µg/kg-dry	na	na	96	na	na
Total DDD	>4.0	na	na	na	na	na	na	4.88	µg/kg-dry	4.88	na	na	na	na
2,4'-DDE	6.51	na	na	na	na	na	na	na	µg/kg-dry	na	na	na	na	na
4,4'-DDE	6.51	na	na	na	na	na	na	21	µg/kg-dry	na	na	21	na	na
Total DDE	>4.0	na	na	na	na	na	na	3.16	µg/kg-dry	3.16	na	na	na	na
2,4'-DDT	6.91	na	na	na	na	na	na	na	µg/kg-dry	na	na	na	na	na
4,4'-DDT	6.91	na	na	na	na	na	na	19	µg/kg-dry	na	na	19	na	na
Total DDT	>4.0	na	na	na	na	na	na	4.16	µg/kg-dry	4.16	na	na	na	na
Total DDx	>4.0	0.001	0.001	0.001	0.001	0.001	na	5.28	µg/kg-dry	5.28	na	na	na	na
Aldrin	6.50	0.0019	3.0 [b]	0.0019	3.0 [b]	0.0019	na	na	na	na	na	na	na	na
Atrazine	2.61	na	na	na	na	na	1.8	na	na	na	na	na	na	na
alpha-BHC	3.80	na	na	na	na	na	na	na	na	na	na	na	na	na
beta-BHC	3.78	na	na	na	na	na	na	na	na	na	na	na	na	na
delta-BHC	4.14	na	na	na	na	na	na	91	µg/kg-dry	na	na	na	91	13
gamma-BHC (Lindane)	3.72	0.08	0.95 [b]	0.08	0.95 [b]	0.08	0.01	2.37	µg/kg-dry	2.37	na	na	2.59	0.37
alpha-Chlordane (cis-)	6.16	0.0043	0.0043	0.0043	0.0043	0.0043	na	na	na	na	na	na	na	na
gamma-Chlordane (trans-)	6.16	na	na	na	na	na	na	na	na	na	na	na	na	na
cis-Nonachlor	6.20	na	na	na	na	na	na	na	na	na	na	na	na	na
trans-Nonachlor	6.20	na	na	na	na	na	na	na	na	na	na	na	na	na

Table 4-1. SLERA Screening Ecotoxicity Values (SEVs) for Surface Water and Sediment Analytes Measured in the UCR

		Surface Water SEVs						Sediment SEVs						
		Dissolved Concentrations					Total Concentrations							
Analyte	Log K_{ow}	Surface Water Screening SEVs for Dissolved Concentrations (µg/L)	Chronic EPA AWQC	Ecology Chronic WQS	Confederated Tribes of the Colville, Aquatic Life Chronic Criteria	Spokane Tribe of Indians, Aquatic Life Chronic Criteria	CCME Screening SEVs for Total Concentrations (µg/L)	Sediment Screening SEVs	Units	TEC	SQS	LAET	Tier 2 ESG	Tier 2 ESG (mg/kg organic carbon)
Pesticides (continued)														
Oxychlordane	6.16	na	na	na	na	na	na	na	na	na	na	na	na	na
Total Chlordane	>6.0	na	na	na	na	na	na	3.24	µg/kg-dry	3.24	na	na	na	na
Dieldrin	5.40	0.0019	0.056	0.0019	0.056	0.0019	na	1.9	µg/kg-dry	1.9	na	na	91	13
Endosulfan I	3.83	0.056	0.056	0.056	0.056	0.056	0.02	2.03	µg/kg-dry	na	na	na	2.03	0.29
Endosulfan II	3.83	0.056	0.056	0.056	0.056	0.056	0.02	9.8	µg/kg-dry	na	na	na	9.8	1.4
Endrin	5.20	0.0023	0.036	0.0023	0.036	0.0023	na	2.22	µg/kg-dry	2.22	na	na	38.5	5.5
Endrin aldehyde	4.80	na	na	na	na	na	na	na	na	na	na	na	na	na
Endrin ketone	5.20	na	na	na	na	na	na	na	na	na	na	na	na	na
Endosulfan sulfate	3.66	na	na	na	na	na	na	na	na	na	na	na	na	na
Heptachlor	6.10	0.0038	0.0038	0.0038	0.0038	0.0038	na	na	na	na	na	na	na	na
Heptachlor epoxide	5.40	0.0038	0.0038	0.0038	0.0038	0.0038	na	2.47	µg/kg-dry	2.47	na	na	na	na
Hexachlorobenzene	5.73	na	na	na	na	na	na	na	na	na	na	na	na	na
Hexachlorobutadiene	4.78	na	na	na	na	na	1.3	na	na	na	na	na	na	na
Methoxychlor	5.08	0.03	0.03	na	0.03	0.03	na	13.3	µg/kg-dry	na	na	na	13.3	1.9
Toxaphene	5.90	0.0002	0.0002	0.0002	0.0002	0.0002	na	70	µg/kg-dry	na	na	na	70	10
SVOCs														
1,1'-Biphenyl	4.01	na	na	na	na	na	na	770	µg/kg-dry	na	na	na	770	110
1,2,4-Trichlorobenzene	4.02	na	na	na	na	na	24	6440	µg/kg-dry	na	na	na	6440	920
1,2-Dichlorobenzene	3.43	na	na	na	na	na	0.7	238	µg/kg-dry	na	na	na	238	34
1,3-Dichlorobenzene	3.53	na	na	na	na	na	150	1190	µg/kg-dry	na	na	na	1190	170
1,4-Dichlorobenzene	3.44	na	na	na	na	na	26	245	µg/kg-dry	na	na	na	245	35
2,2'-oxybis(1-Chloropropane)	2.48	na	na	na	na	na	na	na	na	na	na	na	na	na
2,4,5-Trichlorophenol	3.72	na	na	na	na	na	18	na	na	na	na	na	na	na
2,4,6-Trichlorophenol	3.69	na	na	na	na	na	18	na	na	na	na	na	na	na
2,4-Dichlorophenol	3.06	na	na	na	na	na	0.2	na	na	na	na	na	na	na
2,4-Dimethylphenol	2.30	na	na	na	na	na	na	na	na	na	na	na	na	na
2,4-Dinitrophenol	1.67	na	na	na	na	na	na	na	na	na	na	na	na	na
2,4-Dinitrotoluene	1.98	na	na	na	na	na	na	na	na	na	na	na	na	na
2,6-Dinitrotoluene	2.10	na	na	na	na	na	na	na	na	na	na	na	na	na
2-Chloronaphthalene	3.90	na	na	na	na	na	na	na	na	na	na	na	na	na
2-Chlorophenol	2.15	na	na	na	na	na	na	na	na	na	na	na	na	na
2-Methylphenol (o-cresol)	1.95	na	na	na	na	na	na	na	na	na	na	na	na	na
2-Nitroaniline	1.85	na	na	na	na	na	na	na	na	na	na	na	na	na
2-Nitrophenol	1.79	na	na	na	na	na	na	na	na	na	na	na	na	na
3,3'-Dichlorobenzidine	3.51	na	na	na	na	na	na	na	na	na	na	na	na	na
3-Nitroaniline	1.37	na	na	na	na	na	na	na	na	na	na	na	na	na
4,6-Dinitro-2-methylphenol	2.13	na	na	na	na	na	na	na	na	na	na	na	na	na
4-Bromophenyl-phenylether	4.94	na	na	na	na	na	na	910	µg/kg-dry	na	na	na	910	130
4-Chloro-3-methylphenol	3.10	na	na	na	na	na	na	na	na	na	na	na	na	na
4-Chloroaniline	1.83	na	na	na	na	na	na	na	na	na	na	na	na	na
4-Chlorophenyl-phenyl ether	4.08	na	na	na	na	na	na	na	na	na	na	na	na	na
4-Methylphenol (p-cresol)	1.94	na	na	na	na	na	na	760	µg/kg-dry	na	na	760	na	na
4-Nitroaniline	1.39	na	na	na	na	na	na	na	na	na	na	na	na	na
4-Nitrophenol	1.91	na	na	na	na	na	na	na	na	na	na	na	na	na
Acetophenone	1.58	na	na	na	na	na	na	na	na	na	na	na	na	na
Benzaldehyde	1.48	na	na	na	na	na	na	na	na	na	na	na	na	na
Benzoic acid	1.87	na	na	na	na	na	na	2910	µg/kg-dry	na	na	2910	na	na

Table 4-1. SLERA Screening Ecotoxicity Values (SEVs) for Surface Water and Sediment Analytes Measured in the UCR

		Surface Water SEVs						Sediment SEVs						
		Dissolved Concentrations					Total Concentrations							
Analyte	Log K_{ow}	Surface Water Screening SEVs for Dissolved Concentrations (µg/L)	Chronic EPA AWQC	Ecology Chronic WQS	Confederated Tribes of the Colville, Aquatic Life Chronic Criteria	Spokane Tribe of Indians, Aquatic Life Chronic Criteria	CCME Screening SEVs for Total Concentrations (µg/L)	Sediment Screening SEVs	Units	TEC	SQS	LAET	Tier 2 ESG	Tier 2 ESG (mg/kg organic carbon)
SVOCs (continued)														
Benzyl alcohol	1.10	na	na	na	na	na	na	na	na	na	na	na	na	na
bis(2-Chloroethoxy)methane	1.75	na	na	na	na	na	na	na	na	na	na	na	na	na
Bis(2-chloroethyl)ether	1.29	na	na	na	na	na	na	na	na	na	na	na	na	na
bis(2-Ethylhexyl)phthalate	7.60	na	na	na	na	na	16	230	µg/kg-dry	na	230	2520	na	na
Butyl benzyl phthalate	4.91	na	na	na	na	na	na	260	µg/kg-dry	na	260	260	7700	1100
Caprolactam	0.66	na	na	na	na	na	na	na	na	na	na	na	na	na
Carbazole	3.72	na	na	na	na	na	na	923	µg/kg-dry	na	na	923	na	na
Dibenzofuran	4.12	na	na	na	na	na	na	399	µg/kg-dry	na	400	399	1400	200
Diethyl phthalate	2.47	na	na	na	na	na	na	441	µg/kg-dry	na	na	na	441	63
Dimethyl phthalate	1.60	na	na	na	na	na	na	46	µg/kg-dry	na	46	311	na	na
Di-n-butyl phthalate	4.90	na	na	na	na	na	19	103	µg/kg-dry	na	na	103	7700	1100
Di-n-octylphthalate	8.10	na	na	na	na	na	na	11	µg/kg-dry	na	26	11	na	na
Hexachlorocyclopentadiene	5.04	na	na	na	na	na	na	na	na	na	na	na	na	na
Hexachloroethane	4.14	na	na	na	na	na	na	700	µg/kg-dry	na	na	na	700	100
Isophorone	1.70	na	na	na	na	na	na	na	na	na	na	na	na	na
Nitrobenzene	1.85	na	na	na	na	na	na	na	na	na	na	na	na	na
N-Nitrosodi-n-propylamine	1.36	na	na	na	na	na	na	na	na	na	na	na	na	na
N-Nitrosodiphenylamine	3.13	na	na	na	na	na	na	na	na	na	na	na	na	na
Pentachlorophenol	5.12	17.5	19.9 [a]	17.5 [a]	19.9 [a]	17.5 [a]	0.5	na	na	na	na	na	na	na
Phenol	1.46	na	na	na	na	na	4	na	na	na	na	na	na	na

Notes:

Log K_{ow} - Octanol-water partition coefficient, the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter (e.g., lipids). Also, a Log $K_{ow} \geq 4.0$ is a conservative indicator of a bioaccumulative compound in aquatic biota (USEPA 2008). Values obtained from the Hazardous Substances DataBank (HSDB) (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB) or Oak Ridge National Laboratory Risk Assessment Information System (http://rais.ornl.gov/cgi-bin/tox/TOX_select?select=csf).

Surface Water SEVs

[a] Criteria are hardness or pH dependent and are calculated using the means of those parameters from the Ecology (2006a) surface water data (Appendix A, Table A-1). Mean hardness = 66.89 mg/L, Mean pH = 8.11 s.u., Mean temperature = 9.5 °C.

[b] Value represents the acute criterion because no chronic criterion exists for this analyte.

AWQC - Chronic ambient water quality criteria developed by the EPA (USEPA 2006c).
Ecology WQS - Washington State Department of Ecology chronic water quality standards as defined in Ch. 173-201A WAC (Ecology 2006a).
Colville Confederated Tribes - Colville Confederated Tribes chronic water quality standards are equivalent to the chronic EPA AWQC (CCT 2004).
Spokane Tribe of Indians - Spokane Tribe of Indians chronic water quality standards as defined in STI (2003).
CCME - Canadian Council of Ministers of the Environment, Guidelines for the Protection of Aquatic Life (CCME 2007). The SEV for total ammonia was estimated from the Tables presented here: (http://www.env.gov.bc.ca/wat/wq/BCguidelines/nitrogen/nitrogen.html#tab4).

Sediment SEVs

TEC - Threshold effect concentration (MacDonald et al. 2000). Adopted by the Colville Confederated Tribes and the Spokane Tribe of Indians.
SQS - Sediment quality standards developed by the Washington Department of Ecology (Ecology 2003).
LAET - Lowest apparent effects threshold, developed by the Washington Department of Ecology (Ecology 2003).
Tier 2 ESG - Equilibrium partitioning sediment guidelines for the protection of aquatic life, developed by the EPA for the National Sediment Quality Survey (USEPA 2004a). ESGs were derived using the equilibrium partition coefficient method and the chronic AWQC. The ESGs were developed for nonionic organic chemicals and are dependent on the total organic carbon content (TOC). Using a site-specific organic carbon fraction (TOC% = 0.7%, mean of USEPA 2006a sediment TOC data) the draft ESGoc can be expressed as a dry-weight sediment-specific value: ESG = (ESGoc)x(TOC).

[c] Sediment SEV for Dioxins/Furans is from CCME (2002).

Table 4-2. EPA Ecological Soil Screening Levels (Eco-SSLs)

COI	EPA Eco-SSLs (mg/kg-dry weight in soil) [a]				Reference
	Plants	Soil Invertebrates	Avian Wildlife	Mammalian Wildlife	
Metals/Metalloids					
Aluminum	NA	NA	NA	NA	USEPA (2003b)
Antimony	NA	78	NA	0.27	USEPA (2005d)
Arsenic	18	NA	43	46	USEPA (2005e)
Barium	NA	330	NA	2000	USEPA (2005f)
Beryllium	NA	40	NA	21	USEPA (2005g)
Cadmium	32	140	0.77	0.36	USEPA (2005h)
Chromium (+3)	NA	NA	26	34	USEPA (2008)
Chromium (+6)	NA	NA	NA	81	USEPA (2008)
Cobalt	13	NA	120	230	USEPA (2005i)
Copper	70	80	28	49	USEPA (2007c)
Iron	NA	NA	NA	NA	USEPA (2003c)
Lead	120	1700	11	56	USEPA (2005j)
Manganese	220	450	4300	4000	USEPA (2007e)
Nickel	38	280	210	130	USEPA (2007f)
Selenium	0.52	4.1	1.2	0.63	USEPA (2007h)
Silver	560	NA	4.2	14	USEPA (2006c)
Vanadium	NA	NA	7.8	280	USEPA (2005k)
Zinc	160	120	46	79	USEPA (2007i)
Organics					
LPAHs	NA	29	NA	100	USEPA (2007g)
HPAHs	NA	18	NA	1.1	USEPA (2007g)
DDT and metabolites	NA	NA	0.093	0.021	USEPA (2007d)

NA - data not available to derive an Eco-SSL.
[a] EPA Eco-SSL documents are available online at: http://www.epa.gov/ecotox/ecossl/.

Table 5-1. Summary of Sediment Samples Collected by EPA, Ecology, and USGS

Sample Type	Sample Size: Metals/ Metalloids	PCBs	PAHs	SVOCs	Dioxins/ Furans
USEPA (2003a), collected in 2001					
Columbia River Surface Samples	50	50	50	0	0
Ecology (2001), collected in 2001					
Surface Samples	9	0	0	0	0
USGS (Cox et al. 2005), collected in 2003					
Surface Samples	6	0	0	0	0
Core Samples	89	0	0	0	0
USGS (Paulson et al. 2006), collected in 2004					
Surface Samples	29	0	0	0	0
USEPA (2006a), collected in 2005					
Beach Composite Surface Samples	36	36	36	36	45
Beach (Single location) Surface Samples	27	27	27	27	0
Beach (Bulk) Surface Samples [a]	3	3	3	3	3
Core Samples	44	43	44	44	23
Transect Surface Samples	236	236	236	236	0
Total Number of Samples =	**529**	**395**	**396**	**346**	**71**

Notes:

[a] These samples were also used to evaluate chemical concentrations in varying size-fractions; only the bulk samples were used in the SLERA (i.e., no sieved samples were evaluated). Sediment samples (sieved to the <63 um fraction) are also available from Majewski et al. (2003), however they have not been evaluated herein due to the small size fraction. These data, however, have been incorporated into the overall project database.

Table 6-1. Summary of Screening Results for Surface Water and Porewater Collected in the UCR between 2000 and 2006

Analyte	Screening SEV (µg/L) [a]	Measure	Surface Water Screening Results for Aquatic Life (µg/L)								Porewater Screening Results for Aquatic Life (µg/L)							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Nutrients																		
Ammonia	2070	Dissolved	91	17	19%	0.02	0.00001	0	0.01	0	0	-	-	-	-	-	-	-
Cyanide	5.2	Dissolved	7	0	0%	-	-	-	0.018	0	0	-	-	-	-	-	-	-
Nitrite-Nitrate	no SEV	Dissolved	84	84	100%	0.137	-	-	n/a	-	0	-	-	-	-	-	-	-
Phosphorous	no SEV	Dissolved	93	52	56%	0.05	-	-	0.01	-	43	33	77%	1.80	-	-	0.05	-
Metals/Metalloids																		
Aluminum	87	Dissolved	5	2	40%	11.5	0.1	0	19	0	43	43	100%	446	5.1	15	n/a	n/a
Antimony	no SEV	Dissolved	5	1	20%	0.46	-	-	1	-	43	39	91%	7.3	-	-	0.3	-
Arsenic	150	Dissolved	35	27	77%	1	0.01	0	2	0	43	39	91%	27.4	0.2	0	1	0
Arsenic	5 (CCME)	Total Recoverable	38	38	100%	0.86	0.2	-	n/a	n/a	0	-	-	-	-	-	-	-
Barium	no SEV	Dissolved	5	5	100%	37	-	-	n/a	-	43	43	100%	193	-	-	n/a	-
Beryllium	no SEV	Dissolved	5	0	0%	-	-	-	1	-	43	1	2%	0.06	-	-	0.05	-
Bismuth	no SEV	Dissolved	2	0	0%	-	-	-	0.2	-	43	0	0%	-	-	-	0.20	-
Boron	no SEV	Dissolved	7	1	14%	8.5	-	-	16	-	0	-	-	-	-	-	-	-
Cadmium	0.19**	Dissolved	31	15	48%	0.24	1.4	1	1	3	43	21	49%	0.97	5.4	8	0.1	0
Cadmium	0.02 (CCME)	Total Recoverable	26	1	4%	0.24	12	1	1	25	0	-	-	-	-	-	-	-
Calcium	no SEV	Dissolved	9	9	100%	19.8	-	-	n/a	-	43	43	100%	46.2	-	-	n/a	n/a
Cerium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	43	42	98%	1.07	-	-	0.05	-
Cesium	no SEV	Dissolved	2	0	0%	-	-	-	0.02	-	43	38	88%	0.23	-	-	0.02	-
Chloride	230	Dissolved	7	7	100%	0.99	0.004	-	n/a	n/a	0	-	-	-	-	-	-	-
Chromium	53**	Dissolved	31	16	52%	0.56	0.01	0	5	0	43	0	0%	-	-	-	5.00	0
Chromium	8.9 (CCME)	Total Recoverable	26	1	4%	0.83	0.1	0	0.5	0	0	-	-	-	-	-	-	-
Cobalt	no SEV	Dissolved	5	1	20%	0.11	-	-	1	-	43	40	93%	1.54	-	-	0.1	-
Copper	6.4**	Dissolved	31	27	87%	0.99	0.2	0	1	0	43	37	86%	10.2	1.5	3	0.5	0
Copper	2** (CCME)	Total Recoverable	26	26	100%	4.58	1.4	1	n/a	n/a	0	-	-	-	-	-	-	-
Dysprosium	no SEV	Dissolved	2	0	0%	-	-	-	0.04	-	32	7	22%	0.09	-	-	0.04	-
Erbium	no SEV	Dissolved	2	1	50%	0.03	-	-	0.025	-	32	4	13%	0.053	-	-	0.03	-
Europium	no SEV	Dissolved	2	0	0%	-	-	-	0.025	-	32	3	9%	0.04	-	-	0.03	-
Fluoride	no SEV	Dissolved	7	0	0%	-	-	-	0.1	-	0	-	-	-	-	-	-	-
Gadolinium	no SEV	Dissolved	2	0	0%	-	-	-	0.025	-	32	17	53%	0.1	-	-	0.03	-
Gallium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	43	23	53%	0.2	-	-	0.05	-
Germanium	no SEV	Dissolved	2	0	0%	-	-	-	0.25	-	32	5	16%	0.82	-	-	0.25	-
Gold	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Holmium	no SEV	Dissolved	2	0	0%	-	-	-	0.25	-	32	0	0%	-	-	-	0.03	-
Indium	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Iron	1000	Dissolved	9	3	33%	10	0.01	0	250	0	43	19	44%	5600	5.6	11	250	0
Lanthanum	no SEV	Dissolved	2	0	0%	-	-	-	0.1	-	43	32	74%	0.6	-	-	0.1	-
Lead	1.6**	Dissolved	31	16	52%	0.07	0.04	0	1	0	43	43	100%	8	4.8	19	n/a	n/a
Lead	2** (CCME)	Total Recoverable	26	26	100%	1.96	1.1	1	n/a	n/a	0	-	-	-	-	-	-	-
Lithium	no SEV	Dissolved	9	2	22%	2	-	-	4.5	-	43	18	42%	7.3	-	-	4.5	-
Lutetium	no SEV	Dissolved	2	0	0%	-	-	-	0.5	-	32	0	0%	-	-	-	0.50	-
Magnesium	no SEV	Dissolved	9	9	100%	4.71	-	-	n/a	-	43	43	100%	15	-	-	n/a	n/a
Manganese	no SEV	Dissolved	5	2	40%	1.9	-	-	5	-	43	41	95%	6500	-	-	5	-
Mercury	0.012	Total	26	4	15%	0.0022	0.2	0	0.004	0	0	-	-	-	-	-	-	-
Mercury	0.03 (CCME)	Total Recoverable	26	4	15%	0.0022	0.1	0	0.004	0	0	-	-	-	-	-	-	-
Molybdenum	no SEV	Dissolved	5	0	0%	-	-	-	2	-	43	19	44%	10.5	-	-	2	-
Neodymium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	32	24	75%	0.55	-	-	0.05	-
Nickel	37**	Dissolved	38	28	74%	1.63	0.05	0	1	0	43	37	86%	6	0.2	0	0.4	0
Nickel	65** (CCME)	Total Recoverable	26	26	100%	0.95	0.03	0	n/a	n/a	0	-	-	-	-	-	-	-
Niobium	no SEV	Dissolved	2	0	0%	-	-	-	1	-	43	0	0%	-	-	-	1.00	-
Potassium	no SEV	Dissolved	9	9	100%	0.8	-	-	n/a	-	43	43	100%	3.2	-	-	n/a	n/a

Table 6-1. Summary of Screening Results for Surface Water and Porewater Collected in the UCR between 2000 and 2006

Analyte	Screening SEV (µg/L) [a]	Measure	Surface Water Screening Results for Aquatic Life (µg/L) N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV	Porewater Screening Results for Aquatic Life (µg/L) N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Metals/Metalloids (continued)																		
Praseodymium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	32	9	28%	0.16	-	-	0.05	-
Rubidium	no SEV	Dissolved	2	2	100%	0.86	-	-	n/a	-	43	43	100%	7.7	-	-	n/a	n/a
Samarium	no SEV	Dissolved	2	0	0%	-	-	-	0.09	-	32	2	6%	0.19	-	-	0.09	-
Scandium	no SEV	Dissolved	2	0	0%	-	-	-	3	-	43	17	40%	9.4	-	-	3	-
Selenium	5	Dissolved	9	0	0%	-	-	-	5	2	32	0	0%	-	-	-	5	32
Silicon (Silica)	no SEV	Dissolved	9	9	100%	6.81	-	-	n/a	-	32	32	100%	39.7	-	-	n/a	n/a
Silver	1.6**	Dissolved	31	1	3%	0.066	0.04	0	15	2	43	0	0%	-	-	-	15	37
Silver	0.1 (CCME)	Total Recoverable	26	0	0%	-	-	-	0.1	26	0	-	-	-	-	-	-	-
Sodium	no SEV	Dissolved	9	9	100%	2.19	-	-	n/a	-	43	43	100%	4.6	-	-	n/a	n/a
Strontium	no SEV	Dissolved	9	9	100%	101	-	-	n/a	-	32	32	100%	186	-	-	n/a	n/a
Sulfur (Sulfate)	no SEV	Dissolved	9	9	100%	33	-	-	n/a	-	43	7	16%	17	-	-	10	-
Tantalum	no SEV	Dissolved	2	0	0%	-	-	-	0.1	-	43	3	7%	0.2	-	-	0.1	-
Tellurium	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Terbium	no SEV	Dissolved	2	0	0%	-	-	-	0.1	-	32	0	0%	-	-	-	0.10	-
Thallium	no SEV	Dissolved	2	0	0%	-	-	-	0.2	-	43	4	9%	0.2	-	-	0.2	-
Thorium	no SEV	Dissolved	2	0	0%	-	-	-	1	-	43	0	0%	-	-	-	1.00	-
Thulium	no SEV	Dissolved	2	0	0%	-	-	-	0.045	-	32	0	0%	-	-	-	0.05	-
Tin	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Titanium	no SEV	Dissolved	2	0	0%	-	-	-	2.5	-	43	20	47%	9.7	-	-	2.5	-
Tungsten	no SEV	Dissolved	2	0	0%	-	-	-	0.5	-	32	8	25%	1.3	-	-	0.5	-
Uranium	no SEV	Dissolved	5	0	0%	-	-	-	1	-	43	22	51%	3.1	-	-	0.5	-
Vanadium	no SEV	Dissolved	9	0	0%	-	-	-	10	-	43	14	33%	7.4	-	-	2.5	-
Ytterbium	no SEV	Dissolved	2	0	0%	-	-	-	0.025	-	32	17	53%	0.06	-	-	0.025	-
Yttrium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	43	42	98%	0.44	-	-	0.05	-
Zinc	74**	Dissolved	31	25	81%	7.4	0.1	0	4.7	0	43	40	93%	40	0.3	0	2.5	0
Zinc	30 (CCME)	Total Recoverable	26	4	15%	45	1.5	1	5	0	0	-	-	-	-	-	-	-
Zirconium	no SEV	Dissolved	2	0	0%	-	-	-	1	-	32	0	0%	-	-	-	1.00	-
Dioxins/Furans																		
1,2,3,4,6,7,8-HpCDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,4,6,7,8-HpCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,4,7,8,9-HpCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,4,7,8-HxCDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,4,7,8-HxCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,6,7,8-HxCDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,6,7,8-HCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,7,8,9-HxCDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,7,8-PCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,3,7,8-PCDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,3,4,6,7,8-HxCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,3,4,7,8-PCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,3,7,8-TCDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,3,7,8-TCDF	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Octachlorodibenzodioxin	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Octachlorodibenzofuran	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
PAHs																		
2-Methylnaphthalene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Acenaphthene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Acenaphthylene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Anthracene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Benzo(a)anthracene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-

Table 6-1. Summary of Screening Results for Surface Water and Porewater Collected in the UCR between 2000 and 2006

	Screening SEV		Surface Water Screening Results for Aquatic Life (µg/L)								Porewater Screening Results for Aquatic Life (µg/L)							
Analyte	(µg/L) [a]	Measure	N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
PAHs (continued)																		
Benzo(a)pyrene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Benzo(b)fluoranthene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Benzo(ghi)perylene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Benzo(k)fluoranthene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Chrysene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Fluoranthene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Fluorene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Naphthalene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Phenanthrene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Pyrene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Total PAHs	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
PCBs																		
Aroclor 1016	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Aroclor 1221	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Aroclor 1232	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Aroclor 1242	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Aroclor 1248	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Aroclor 1254	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Aroclor 1260	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Total PCBs	0.014	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
PBDEs																		
Total PBDEs	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Pesticides																		
2,4'-DDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4'-DDE	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4'-DDT	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4,4'-DDD	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4,4'-DDE	no SEV	Dissolved	7	2	29%	0.002	-	-	0.006	-	0	-	-	-	-	-	-	-
4,4'-DDT	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Total DDx	0.001	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Aldrin	0.0019	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Atrazine	no SEV	Dissolved	7	0	0%	-	-	-	0.008	-	0	-	-	-	-	-	-	-
alpha-BHC	no SEV	Dissolved	7	0	0%	-	-	-	0.005	-	0	-	-	-	-	-	-	-
beta-BHC	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
gamma-BHC (Lindane)	0.08	Dissolved	7	0	0%	-	-	-	0.004	0	0	-	-	-	-	-	-	-
alpha-Chlordane	0.0043	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
gamma-Chlordane	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
cis-Nonachlor	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
trans-Nonachlor	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Oxychlordane	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Total Chlordane	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
delta-BHC	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Dieldrin	0.0019	Dissolved	7	0	0%	-	-	-	0.005	1	0	-	-	-	-	-	-	-
Endosulfan I	0.056	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Endosulfan II	0.056	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Endrin	0.0023	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Endrin aldehyde	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Endrin ketone	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-

Table 6-1. Summary of Screening Results for Surface Water and Porewater Collected in the UCR between 2000 and 2006

Analyte	Screening SEV (µg/L) [a]	Measure	Surface Water Screening Results for Aquatic Life (µg/L) N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV	Porewater Screening Results for Aquatic Life (µg/L) N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Pesticides (continued)																		
Endosulfan sulfate	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Heptachlor	0.0038	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Heptachlor epoxide	0.0038	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Hexachlorobenzene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Hexachlorobutadiene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Methoxychlor	0.03	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Toxaphene	0.0002	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
SVOCs																		
1,1'-Biphenyl	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,2-Dichlorobenzene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,3-Dichlorobenzene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
1,4-Dichlorobenzene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,2'-oxybis(1-Chloropropane)	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4-Dichlorophenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4-Dimethylphenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4-Dinitrophenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,4-Dinitrotoluene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2,6-Dinitrotoluene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2-Chloronaphthalene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2-Chlorophenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2-Methylphenol (o-cresol)	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2-Nitroaniline	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
2-Nitrophenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
3-Nitroaniline	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4-Bromophenyl-phenylether	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4-Chloroaniline	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4-Chlorophenyl-phenyl ether	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4-Methylphenol (p-cresol)	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4-Nitroaniline	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
4-Nitrophenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Acetophenone	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Benzaldehyde	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Benzoic acid	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Benzyl alcohol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Butyl benzyl phthalate	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Caprolactam	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Carbazole	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Dibenzofuran	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Diethyl phthalate	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Dimethyl phthalate	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Di-n-butyl phthalate	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-

Table 6-1. Summary of Screening Results for Surface Water and Porewater Collected in the UCR between 2000 and 2006

Analyte	Screening SEV (µg/L) [a]	Measure	Surface Water Screening Results for Aquatic Life (µg/L)								Porewater Screening Results for Aquatic Life (µg/L)							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
SVOCs (continued)																		
Di-n-octylphthalate	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Hexachloroethane	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Isophorone	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Nitrobenzene	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Pentachlorophenol	17.5	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Phenol	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-

Notes:

[a] See Table 4-1 for summary of screening SEVs.

** For hardness dependent screening SEVs, the hardness value used for the screening evaluation was the sample-specific value or, when a sample-specific value was not available, the arithmetic mean of hardness measurements (66.89 ± 4.5 mg/L $CaCO_3$) collected between 2000 and 2006 in conjunction with the Ecology water quality monitoring was used (see Table A-2 for raw data). The value shown in the Screening SEV column represents the SEV adjusted to a hardness of 66.89 $CaCO_3$.

(shaded) Shaded values are greater than or equal to the SEV.

SEV Screening Ecotoxicty Value

N Sample size

DT Number of detected samples

FOD Frequency of detection

Max Msd Maximum measured concentration

Max Msd HQ Ratio of the maximum measured value to the screening SEV

#Msd>SEV Number of measuered samples greater than SEV

Table 6-2. Summary of CCME Screening Results for Dissolved Surface Water and Porewater Samples Collected in the UCR between 2000 and 2006

	Screening SEV-		Surface Water Screening Results for Aquatic Life (µg/L)								Porewater Screening Results for Aquatic Life (µg/L)							
Analyte	CCME (µg/L) [a]	Measure	N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Nutrients																		
Ammonia	900	Dissolved	91	17	19%	0.02	0.00002	0	0.01	0	0	-	-	-	-	-	-	-
Cyanide	5	Dissolved	7	0	0%	-	-	-	0.018	0	0	-	-	-	-	-	-	-
Nitrite-Nitrate	no SEV	Dissolved	84	84	100%	0.137	-	-	n/a	-	0	-	-	-	-	-	-	-
Phosphorous	no SEV	Dissolved	93	52	56%	0.05	-	-	0.01	-	43	33	77%	1.80	-	-	0.05	-
Metals/Metalloids																		
Aluminum	100	Dissolved	5	2	40%	11.5	0.1	0	19	0	43	43	100%	446	4.5	12	n/a	n/a
Antimony	no SEV	Dissolved	5	1	20%	0.46	-	-	1	-	43	39	91%	7.3	-	-	0.3	-
Arsenic	5	Dissolved	35	27	77%	1	0.2	0	2	0	43	39	91%	27.4	5.5	23	1	0
Barium	no SEV	Dissolved	5	5	100%	37	-	-	n/a	-	43	43	100%	193	-	-	n/a	-
Beryllium	no SEV	Dissolved	5	0	0%	-	-	-	1	-	43	1	2%	0.06	-	-	0.05	-
Bismuth	no SEV	Dissolved	2	0	0%	-	-	-	0.2	-	43	0	0%	-	-	-	0.20	-
Boron	no SEV	Dissolved	7	1	14%	8.5	-	-	16	-	0	-	-	-	-	-	-	-
Cadmium	0.017	Dissolved	31	15	48%	0.24	14.1	15	1	16	43	21	49%	0.97	57.1	21	0.1	22
Calcium	no SEV	Dissolved	9	9	100%	19.8	-	-	n/a	-	43	43	100%	46.2	-	-	n/a	n/a
Cerium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	43	42	98%	1.07	-	-	0.05	-
Cesium	no SEV	Dissolved	2	0	0%	-	-	-	0.02	-	43	38	88%	0.23	-	-	0.02	-
Chloride	no SEV	Dissolved	7	7	100%	0.99	-	-	n/a	n/a	0	-	-	-	-	-	-	-
Chromium	8.9	Dissolved	31	16	52%	0.56	0.1	0	5	0	43	0	0%	-	-	-	5.0	0
Cobalt	no SEV	Dissolved	5	1	20%	0.11	-	-	1	-	43	40	93%	1.54	-	-	0.1	-
Copper	2	Dissolved	31	27	87%	0.99	0.5	0	1	0	43	37	86%	10.2	5.1	12	0.5	0
Dysprosium	no SEV	Dissolved	2	0	0%	-	-	-	0.04	-	32	7	22%	0.09	-	-	0.04	-
Erbium	no SEV	Dissolved	2	1	50%	0.03	-	-	0.025	-	32	4	13%	0.053	-	-	0.03	-
Europium	no SEV	Dissolved	2	0	0%	-	-	-	0.025	-	32	3	9%	0.04	-	-	0.03	-
Fluoride	no SEV	Dissolved	7	0	0%	-	-	-	0.1	-	0	-	-	-	-	-	-	-
Gadolinium	no SEV	Dissolved	2	0	0%	-	-	-	0.025	-	32	17	53%	0.1	-	-	0.03	-
Gallium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	43	23	53%	0.2	-	-	0.05	-
Germanium	no SEV	Dissolved	2	0	0%	-	-	-	0.25	-	32	5	16%	0.82	-	-	0.25	-
Gold	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Holmium	no SEV	Dissolved	2	0	0%	-	-	-	0.25	-	32	0	0%	-	-	-	0.03	-
Indium	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Iron	300	Dissolved	9	3	33%	10	0.03	0	250	0	43	19	44%	5600	18.7	14	250	0
Lanthanum	no SEV	Dissolved	2	0	0%	-	-	-	0.1	-	43	32	74%	0.6	-	-	0.1	-
Lead	2	Dissolved	31	16	52%	0.07	0.04	0	1	0	43	43	100%	8	4.0	21	n/a	n/a
Lithium	no SEV	Dissolved	9	2	22%	2	-	-	4.5	-	43	18	42%	7.3	-	-	4.5	-
Lutetium	no SEV	Dissolved	2	0	0%	-	-	-	0.5	-	32	0	0%	-	-	-	0.50	-
Magnesium	no SEV	Dissolved	9	9	100%	4.71	-	-	n/a	-	43	43	100%	15	-	-	n/a	n/a
Manganese	no SEV	Dissolved	5	2	40%	1.9	-	-	5	-	43	41	95%	6500	-	-	5	-
Mercury	0.026	Total	26	4	15%	0.0022	0.1	0	0.004	0	0	-	-	-	-	-	-	-
Molybdenum	73	Dissolved	5	0	0%	-	-	-	2	0	43	19	44%	10.5	0.1	0	2	0
Neodymium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	32	24	75%	0.55	-	-	0.05	-
Nickel	65	Dissolved	38	28	74%	1.63	0.03	0	1	0	43	37	86%	6	0.1	0	0.4	0
Niobium	no SEV	Dissolved	2	0	0%	-	-	-	1	-	43	0	0%	-	-	-	1.00	-
Potassium	no SEV	Dissolved	9	9	100%	0.8	-	-	n/a	-	43	43	100%	3.2	-	-	n/a	n/a
Praseodymium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	32	9	28%	0.16	-	-	0.05	-
Rubidium	no SEV	Dissolved	2	2	100%	0.86	-	-	n/a	-	43	43	100%	7.7	-	-	n/a	n/a
Samarium	no SEV	Dissolved	2	0	0%	-	-	-	0.09	-	32	2	6%	0.19	-	-	0.09	-
Scandium	no SEV	Dissolved	2	0	0%	-	-	-	3	-	43	17	40%	9.4	-	-	3	-
Selenium	1	Dissolved	9	0	0%	-	-	-	5	9	32	0	0%	-	-	-	5	32
Silicon (Silica)	no SEV	Dissolved	9	9	100%	6.81	-	-	n/a	-	32	32	100%	39.7	-	-	n/a	n/a
Silver	0.1	Dissolved	31	1	3%	0.066	0.7	0	15	3	43	0	0%	-	-	-	15	43

Table 6-2. Summary of CCME Screening Results for Dissolved Surface Water and Porewater Samples Collected in the UCR between 2000 and 2006

Analyte	Screening SEV-CCME (µg/L) [a]	Measure	Surface Water Screening Results for Aquatic Life (µg/L) N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV	Porewater Screening Results for Aquatic Life (µg/L) N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Metals/Metalloids (continued)																		
Sodium	no SEV	Dissolved	9	9	100%	2.19	-	-	n/a	-	43	43	100%	4.6	-	-	n/a	n/a
Strontium	no SEV	Dissolved	9	9	100%	101	-	-	n/a	-	32	32	100%	186	-	-	n/a	n/a
Sulfur (Sulfate)	no SEV	Dissolved	9	9	100%	33	-	-	n/a	-	43	7	16%	17	-	-	10	-
Tantalum	no SEV	Dissolved	2	0	0%	-	-	-	0.1	-	43	3	7%	0.2	-	-	0.1	-
Tellurium	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Terbium	no SEV	Dissolved	2	0	0%	-	-	-	0.1	-	32	0	0%	-	-	-	0.10	-
Thallium	0.8	Dissolved	2	0	0%	-	-	-	0.2	0	43	4	9%	0.2	0.3	0	0.2	0
Thorium	no SEV	Dissolved	2	0	0%	-	-	-	1	-	43	0	0%	-	-	-	1.00	-
Thulium	no SEV	Dissolved	2	0	0%	-	-	-	0.045	-	32	0	0%	-	-	-	0.05	-
Tin	no SEV	Dissolved	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-
Titanium	no SEV	Dissolved	2	0	0%	-	-	-	2.5	-	43	20	47%	9.7	-	-	2.5	-
Tungsten	no SEV	Dissolved	2	0	0%	-	-	-	0.5	-	32	8	25%	1.3	-	-	0.5	-
Uranium	no SEV	Dissolved	5	0	0%	-	-	-	1	-	43	22	51%	3.1	-	-	0.5	-
Vanadium	no SEV	Dissolved	9	0	0%	-	-	-	10	-	43	14	33%	7.4	-	-	2.5	-
Ytterbium	no SEV	Dissolved	2	0	0%	-	-	-	0.025	-	32	17	53%	0.06	-	-	0.025	-
Yttrium	no SEV	Dissolved	2	0	0%	-	-	-	0.05	-	43	42	98%	0.44	-	-	0.05	-
Zinc	30	Dissolved	31	25	81%	7.4	0.2	0	4.7	0	43	40	93%	40	1.3	1	2.5	0
Zirconium	no SEV	Dissolved	2	0	0%	-	-	-	1	-	32	0	0%	-	-	-	1.00	-
Pesticides																		
4,4'-DDE	no SEV	Dissolved	7	2	29%	0.002	-	-	0.006	-	0	-	-	-	-	-	-	-
Atrazine	1.8	Dissolved	7	0	0%	-	-	-	0.008	0	0	-	-	-	-	-	-	-
alpha-BHC	no SEV	Dissolved	7	0	0%	-	-	-	0.005	-	0	-	-	-	-	-	-	-
gamma-BHC (Lindane)	0.01	Dissolved	7	0	0%	-	-	-	0.004	0	0	-	-	-	-	-	-	-
Dieldrin	0.0019	Dissolved	7	0	0%	-	-	-	0.005	1	0	-	-	-	-	-	-	-

Notes:

[a] See Table 4-1 for summary of screening SEVs.
Shaded values are greater than or equal to the SEV.
SEV Screening Ecotoxicty Value
N Sample size
DT Number of detected samples
FOD Frequency of detection
Max Msd Maximum measured concentration
Max Msd HQ Ratio of the maximum measured value to the screening SEV
#Msd>SEV Number of measuered samples greater than SEV
Max DL Maximum detection limit
#DL>SEV Number of detection limits from non-detected samples greater than SEV
n/a Not applicable since all concentrations were detected (FOD = 100%)

Table 6-3. Summary of Screening Results for Sediment Collected in the UCR between 2000 and 2006

Analyte	Screening SEV[a]	Units	Sediment Screening Results for Benthic Invertebrates							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Metals/Metalloids										
Aluminum	no SEV	mg/kg-dry	520	520	100%	94000	-	-	n/a	n/a
Antimony	0.4	mg/kg-dry	386	301	78%	323	808	303	19.1	77
Arsenic	9.79	mg/kg-dry	529	505	95%	74	8	212	8.1	0
Barium	no SEV	mg/kg-dry	520	520	100%	3100	-	-	n/a	n/a
Beryllium	0.46	mg/kg-dry	520	520	100%	3	7	464	n/a	n/a
Bismuth	no SEV	mg/kg-dry	124	123	99%	2.2	-	-	0.005	-
Boron	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Cadmium	0.99	mg/kg-dry	529	478	90%	23	23	330	0.62	0
Calcium	no SEV	mg/kg-dry	520	520	100%	162000	-	-	n/a	n/a
Cerium	no SEV	mg/kg-dry	122	122	100%	130	-	-	n/a	n/a
Cesium	no SEV	mg/kg-dry	124	124	100%	9.3	-	-	n/a	n/a
Chloride	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Chromium	43	mg/kg-dry	520	520	100%	298	7	187	n/a	n/a
Cobalt	no SEV	mg/kg-dry	520	520	100%	88	-	-	n/a	n/a
Copper	32	mg/kg-dry	529	524	99%	3790	118	339	8.7	0
Dysprosium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Erbium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Europium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Fluoride	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Gadolinium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Gallium	no SEV	mg/kg-dry	124	124	100%	35	-	-	n/a	n/a
Germanium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Gold	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Holmium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Indium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Iron	no SEV	mg/kg-dry	520	520	100%	320000	-	-	n/a	n/a
Lanthanum	no SEV	mg/kg-dry	124	124	100%	160	-	-	n/a	n/a
Lead	36	mg/kg-dry	529	529	100%	2760	77	362	n/a	n/a
Lithium	no SEV	mg/kg-dry	124	124	100%	46	-	-	n/a	n/a
Lutetium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Magnesium	no SEV	mg/kg-dry	520	520	100%	32000	-	-	n/a	n/a
Manganese	no SEV	mg/kg-dry	520	520	100%	5860	-	-	n/a	n/a
Mercury	0.18	mg/kg-dry	487	403	83%	3.2	18	207	0.14	0
Molybdenum	no SEV	mg/kg-dry	124	124	100%	62	-	-	n/a	n/a
Neodymium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Nickel	23	mg/kg-dry	520	520	100%	52.8	2	183	n/a	n/a
Niobium	no SEV	mg/kg-dry	95	95	100%	36.7	-	-	n/a	n/a
Phosphorus	no SEV	mg/kg-dry	123	123	100%	2100	-	-	n/a	n/a

Table 6-3. Summary of Screening Results for Sediment Collected in the UCR between 2000 and 2006

Analyte	Screening SEV [a]	Units	Sediment Screening Results for Benthic Invertebrates							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Metals/Metalloids (continued)										
Potassium	no SEV	mg/kg-dry	470	470	100%	29000	-	-	n/a	n/a
Praseodymium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Rubidium	no SEV	mg/kg-dry	124	124	100%	140	-	-	n/a	n/a
Samarium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Scandium	no SEV	mg/kg-dry	124	124	100%	19	-	-	n/a	n/a
Selenium	no SEV	mg/kg-dry	344	233	68%	23.4	-	-	10.2	-
Silicon (Silica)	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Silver	0.545	mg/kg-dry	482	83	17%	12.6	23	79	4.2	397
Sodium	no SEV	mg/kg-dry	520	495	95%	23700	-	-	337	-
Strontium	no SEV	mg/kg-dry	118	118	100%	601	-	-	n/a	n/a
Sulfur (Sulfate)	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Tantalum	no SEV	mg/kg-dry	92	92	100%	2.6	-	-	n/a	n/a
Tellurium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Terbium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Thallium	no SEV	mg/kg-dry	520	142	27%	4.6	-	-	10.5	-
Thorium	no SEV	mg/kg-dry	124	124	100%	27	-	-	n/a	n/a
Thulium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Tin	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Titanium	no SEV	mg/kg-dry	124	124	100%	5500.00	-	-	n/a	n/a
Tungsten	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Uranium	no SEV	mg/kg-dry	470	198	42%	127	-	-	84.3	-
Vanadium	no SEV	mg/kg-dry	520	520	100%	130	-	-	n/a	n/a
Ytterbium	no SEV	mg/kg-dry	86	86	100%	4.6	-	-	n/a	n/a
Yttrium	no SEV	mg/kg-dry	124	124	100%	100	-	-	n/a	n/a
Zinc	121	mg/kg-dry	529	529	100%	26600	220	379	n/a	n/a
Zirconium	no SEV	mg/kg-dry	0	-	-	-	-	-	-	-
Dioxins/Furans										
1,2,3,4,6,7,8-HpCDD	no SEV	ng/kg-dry	71	41	58%	44.50	-	-	2.03	-
1,2,3,4,6,7,8-HpCDF	no SEV	ng/kg-dry	71	42	59%	12.20	-	-	0.42	-
1,2,3,4,7,8,9-HpCDF	no SEV	ng/kg-dry	71	14	20%	0.56	-	-	0.20	-
1,2,3,4,7,8-HxCDD	no SEV	ng/kg-dry	71	30	42%	0.66	-	-	0.16	-
1,2,3,4,7,8-HxCDF	no SEV	ng/kg-dry	71	16	23%	0.94	-	-	0.28	-
1,2,3,6,7,8-HxCDD	no SEV	ng/kg-dry	71	36	51%	2.60	-	-	0.67	-
1,2,3,6,7,8-HCDF	no SEV	ng/kg-dry	71	15	21%	0.66	-	-	0.63	-
1,2,3,7,8,9-HxCDD	no SEV	ng/kg-dry	71	32	45%	1.90	-	-	0.51	-
1,2,3,7,8,9-HxCDF	no SEV	ng/kg-dry	71	9	13%	0.34	-	-	0.23	-
1,2,3,7,8-PCDF	no SEV	ng/kg-dry	71	16	23%	0.72	-	-	0.29	-
1,2,3,7,8-PCDD	no SEV	ng/kg-dry	71	24	34%	0.67	-	-	0.17	-

Table 6-3. Summary of Screening Results for Sediment Collected in the UCR between 2000 and 2006

Analyte	Screening SEV[a]	Units	Sediment Screening Results for Benthic Invertebrates							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Dioxins/Furans (continued)										
2,3,4,6,7,8-HxCDF	no SEV	ng/kg-dry	71	22	31%	0.94	-	-	0.24	-
2,3,4,7,8-PCDF	no SEV	ng/kg-dry	71	26	37%	1.50	-	-	0.27	-
2,3,7,8-TCDD	no SEV	ng/kg-dry	71	18	25%	0.59	-	-	0.11	-
2,3,7,8-TCDF	no SEV	ng/kg-dry	71	53	75%	53.00	-	-	0.20	-
Octachlorodibenzodioxin	no SEV	ng/kg-dry	71	46	65%	338.00	-	-	7.89	-
Octachlorodibenzofuran	no SEV	ng/kg-dry	71	46	65%	21.70	-	-	0.68	-
TCDD TEQ (1/2 DL)	0.85	ng TEQ/kg-dry	71	70	99%	4.65	5	15	0.12	0
PAHs										
2-Methylnaphthalene	469	µg/kg-dry	346	246	71%	30	0.1	0	12	0
Acenaphthene	1060	µg/kg-dry	346	14	4%	3	0.0	0	18	0
Acenaphthylene	470	µg/kg-dry	346	9	3%	9	0.0	0	18	0
Anthracene	57.2	µg/kg-dry	346	33	10%	7	0.1	0	18	0
Benzo(a)anthracene	108	µg/kg-dry	346	159	46%	12	0.1	0	17	0
Benzo(a)pyrene	150	µg/kg-dry	346	100	29%	13	0.1	0	18	0
Benzo(b)fluoranthene	11000	µg/kg-dry	346	83	24%	14	0.0	0	18	0
Benzo(ghi)perylene	4020	µg/kg-dry	346	116	34%	9	0.0	0	18	0
Benzo(k)fluoranthene	11000	µg/kg-dry	346	76	22%	10	0.0	0	18	0
Chrysene	166	µg/kg-dry	346	209	60%	20	0.1	0	16	0
Dibenzo(a,h)anthracene	33	µg/kg-dry	346	51	15%	3	0.1	0	18	0
Fluoranthene	423	µg/kg-dry	346	205	59%	36	0.1	0	14	0
Fluorene	77.4	µg/kg-dry	346	25	7%	3	0.0	0	18	0
Indeno[1,2,3-cd]pyrene	4120	µg/kg-dry	346	109	32%	11	0.0	0	16	0
Naphthalene	176	µg/kg-dry	346	152	44%	43	0.2	0	9	0
Phenanthrene	204	µg/kg-dry	346	211	61%	41	0.2	0	14	0
Pyrene	195	µg/kg-dry	346	195	56%	36	0.2	0	16	0
Total PAHs (1/2 DL)	1610	µg/kg-dry	346	275	79%	176	0.1	0	9	0
PCBs										
Aroclor 1016	no SEV	µg/kg-dry	395	1	0.2%	25	-	-	87	-
Aroclor 1221	no SEV	µg/kg-dry	395	0	0%	-	-	-	180	-
Aroclor 1232	no SEV	µg/kg-dry	395	0	0%	-	-	-	87	-
Aroclor 1242	no SEV	µg/kg-dry	395	0	0%	-	-	-	87	-
Aroclor 1248	no SEV	µg/kg-dry	395	0	0%	-	-	-	87	-
Aroclor 1254	230	µg/kg-dry	395	1	0.2%	38	0.2	0	87	0
Aroclor 1260	138	µg/kg-dry	395	2	0.5%	17	0.1	0	87	0
Total PCBs (1/2 DL)	59.8	µg/kg-dry	395	2	0.5%	244	4	1	90	8
PBDEs										
Total PBDEs	no SEV	µg/kg-dry	0	-	-	-	-	-	-	-

Table 6-3. Summary of Screening Results for Sediment Collected in the UCR between 2000 and 2006

Analyte	Screening SEV[a]	Units	Sediment Screening Results for Benthic Invertebrates							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
Pesticides										
2,4'-DDD	no SEV	µg/kg-dry	346	0	0%	-	-	-	5.1	-
4,4'-DDD	96	µg/kg-dry	396	3	1%	2.1	0.02	0	8.7	0
Total DDD (1/2 DL)	4.88	µg/kg-dry	346	3	1%	4.65	0.95	0	1.0	0
2,4'-DDE	no SEV	µg/kg-dry	346	9	3%	17	-	-	2.8	-
4,4'-DDE	21	µg/kg-dry	396	35	9%	63	3	1	8.7	0
Total DDE (1/2 DL)	3.16	µg/kg-dry	346	35	10%	80	25	2	1.4	0
2,4'-DDT	no SEV	µg/kg-dry	346	20	6%	57	-	-	2.8	-
4,4'-DDT	19	µg/kg-dry	396	77	19%	200	11	2	8.7	0
Total DDT (1/2 DL)	4.16	µg/kg-dry	346	77	22%	257	62	4	1.4	0
Total DDx (1/2 DL)	5.28	µg/kg-dry	396	90	23%	342	65	7	4.35	0
Aldrin	no SEV	µg/kg-dry	396	1	0%	0.17	-	-	4.5	-
Atrazine	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
alpha-BHC	no SEV	µg/kg-dry	396	2	1%	0.23	-	-	4.5	-
beta-BHC	no SEV	µg/kg-dry	396	0	0%	-	-	-	4.5	-
gamma-BHC (Lindane)	2.37	µg/kg-dry	396	0	0%	-	-	-	4.5	18
alpha-Chlordane	no SEV	µg/kg-dry	396	1	0%	1.1	-	-	4.5	-
gamma-Chlordane	no SEV	µg/kg-dry	396	2	1%	0.84	-	-	4.5	-
cis-Nonachlor	no SEV	µg/kg-dry	346	0	0%	-	-	-	2.6	-
trans-Nonachlor	no SEV	µg/kg-dry	346	1	0%	1	-	-	2.6	-
Oxychlordane	no SEV	µg/kg-dry	346	1	0%	0.35	-	-	2.6	-
Total Chlordane (1/2 DL)	3.24	µg/kg-dry	396	4	1%	2.75	0.8	0	2.25	0
delta-BHC	13000**	µg/kg-TOC	396	0	0%	-	-	-	2300	0
Dieldrin	1.9	µg/kg-dry	396	0	0%	-	-	-	8.7	70
Endosulfan I	290**	µg/kg-TOC	396	0	0%	-	-	-	2300	135
Endosulfan II	1400**	µg/kg-TOC	396	0	0%	-	-	-	4500	56
Endrin	2.22	µg/kg-dry	396	0	0%	-	-	-	8.7	59
Endrin aldehyde	no SEV	µg/kg-dry	396	1	0%	0.42	-	-	8.7	-
Endrin ketone	no SEV	µg/kg-dry	396	0	0%	-	-	-	8.7	-
Endosulfan sulfate	no SEV	µg/kg-dry	50	0	0%	-	-	-	8.7	-
Heptachlor	no SEV	µg/kg-dry	396	0	0%	-	-	-	4.5	-
Heptachlor epoxide	2.47	µg/kg-dry	396	0	0%	-	-	-	4.5	18
Hexachlorobenzene	no SEV	µg/kg-dry	346	7	2%	8.5	-	-	2.6	-
Hexachlorobutadiene	no SEV	µg/kg-dry	346	0	0%	-	-	-	2.6	-
Methoxychlor	1900**	µg/kg-TOC	396	8	2%	7158	4	4	23000	165
Toxaphene	10000**	µg/kg-TOC	396	0	0%	-	-	-	230000	249
SVOCs										
1,1'-Biphenyl	110000**	µg/kg-TOC	346	0	0%	-	-	-	335878	79
1,2,4-Trichlorobenzene	920000**	µg/kg-TOC	346	0	0%	-	-	-	335878	0
1,2-Dichlorobenzene	34000**	µg/kg-TOC	346	0	0%	-	-	-	335878	171

Table 6-3. Summary of Screening Results for Sediment Collected in the UCR between 2000 and 2006

Analyte	Screening SEV[a]	Units	Sediment Screening Results for Benthic Invertebrates							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
SVOCs (continued)										
1,3-Dichlorobenzene	170000**	µg/kg-TOC	346	0	0%	-	-	-	335878	42
1,4-Dichlorobenzene	35000**	µg/kg-TOC	346	0	0%	-	-	-	335878	170
2,2'-oxybis(1-Chloropropane)	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2,4,5-Trichlorophenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	880	-
2,4,6-Trichlorophenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2,4-Dichlorophenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2,4-Dimethylphenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2,4-Dinitrophenol	no SEV	µg/kg-dry	288	0	0%	-	-	-	880	-
2,4-Dinitrotoluene	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2,6-Dinitrotoluene	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2-Chloronaphthalene	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2-Chlorophenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2-Methylphenol (o-cresol)	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
2-Nitroaniline	no SEV	µg/kg-dry	346	0	0%	-	-	-	880	-
2-Nitrophenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
3,3'-Dichlorobenzidine	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
3-Nitroaniline	no SEV	µg/kg-dry	346	0	0%	-	-	-	880	-
4,6-Dinitro-2-methylphenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	880	-
4-Bromophenyl-phenylether	130000**	µg/kg-TOC	346	0	0%	-	-	-	335878	63
4-Chloro-3-methylphenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
4-Chloroaniline	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
4-Chlorophenyl-phenyl ether	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
4-Methylphenol (p-cresol)	760	µg/kg-dry	346	1	0.3%	120	0.2	0	350	0
4-Nitroaniline	no SEV	µg/kg-dry	346	0	0%	-	-	-	880	-
4-Nitrophenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	880	-
Acetophenone	no SEV	µg/kg-dry	346	1	0.3%	26	-	-	350	-
Benzaldehyde	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
Benzoic acid	2910	µg/kg-dry	148	0	0%	-	-	-	600	0
Benzyl alcohol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
bis(2-Chloroethoxy)methane	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
Bis(2-chloroethyl)ether	no SEV	µg/kg-dry	346	2	0.6%	63	-	-	350	-
bis(2-Ethylhexyl)phthalate	230	µg/kg-dry	346	6	1.7%	71	0.3	0	350	26
Butyl benzyl phthalate	260	µg/kg-dry	346	0	0%	-	-	-	350	9
Caprolactam	no SEV	µg/kg-dry	346	5	1.4%	150	-	-	350	-
Carbazole	923	µg/kg-dry	346	0	0%	-	-	-	350	0
Dibenzofuran	399	µg/kg-dry	346	71	21%	10	0.03	0	18	0
Diethyl phthalate	63000**	µg/kg-TOC	346	0	0%	-	-	-	335878	123
Dimethyl phthalate	46	µg/kg-dry	346	0	0%	-	-	-	350	346

Table 6-3. Summary of Screening Results for Sediment Collected in the UCR between 2000 and 2006

Analyte	Screening SEV[a]	Units	Sediment Screening Results for Benthic Invertebrates							
			N	# DT	FOD	Max Msd	Max Msd HQ	#Msd>SEV	Max DL	#DL>SEV
SVOCs (continued)										
Di-n-butyl phthalate	103	µg/kg-dry	346	0	0%	-	-	-	350	173
Di-n-octylphthalate	11	µg/kg-dry	346	0	0%	-	-	-	350	346
Hexachloroethane	100000**	µg/kg-TOC	346	0	0%	-	-	-	335878	90
Isophorone	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
Nitrobenzene	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
N-Nitrosodi-n-propylamine	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
N-Nitrosodiphenylamine	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
Pentachlorophenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	880	-
Hexachlorocyclopentadiene	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-
Phenol	no SEV	µg/kg-dry	346	0	0%	-	-	-	350	-

Notes:

a	See Table 4-1 for summary of screening SEVs.
TOC	Total organic carbon normalized concentration
	Shaded values are greater than or equal to the SEV.
SEV	Screening Ecotoxicty Value
N	Sample size
# DT	Number of detected samples
FOD	Frequency of detection
Max Msd	Maximum measured concentration
Max Msd HQ	Ratio of the maximum measured value to the screening SEV
#Msd>SEV	Number of measured samples greater than SEV
Max DL	Maximum detection limit
#DL>SEV	Number of detection limits from non-detected samples greater than SEV
n/a	Not applicable since all concentrations were detected (FOD = 100%)

Table 6-4. Summary of Screening Results for Soils Collected near the UCR

Analyte	Screening SEV [a]	Units	Surface Soil Samples						
			N	# DT	FOD	Max Msd	#Msd≥SEV	Max DL	#DL>SEV
Antimony	0.27	mg/kg-dry	2	1	50.0%	1.3	5	3	1
Arsenic	18	mg/kg-dry	20	20	100%	47	3	n/a	n/a
Beryllium	21	mg/kg-dry	11	11	100%	0.7	0	n/a	n/a
Cadmium	0.36	mg/kg-dry	20	20	100%	6.1	20	n/a	n/a
Chromium	26	mg/kg-dry	11	11	100%	38	2	n/a	n/a
Copper	28	mg/kg-dry	11	11	100%	84	4	n/a	n/a
Lead	11	mg/kg-dry	13	13	100%	580	12	n/a	n/a
Mercury	No SEV	mg/kg-dry	11	9	81.8%	0.12	-	0.05	-
Nickel	38	mg/kg-dry	11	11	100%	56	2	n/a	n/a
Selenium	0.52	mg/kg-dry	11	10	90.9%	4.8	10	1.8	1
Silver	4.2	mg/kg-dry	11	2	18.2%	2.80	0	0.75	0
Sulfur	No SEV	mg/kg-dry	9	9	100%	310	-	-	-
Zinc	46	mg/kg-dry	13	13	100%	4280	12	n/a	n/a

Notes:

[a] See Table 4-2 for summary of screening SEVs.

Shaded values are greater than or equal to the SEV.

SEV Screening Ecotoxicty Value

N Sample size

DT Number of detected samples

FOD Frequency of detection

Max Msd Maximum measured concentration

Max DL Maximum detection limit

#DL>SEV Number of detection limits from non-detected samples greater than SEV

n/a Not applicable since all concentrations were detected (FOD = 100%)

Table 6-5. Aquatic-dependent Wildlife SLERA Results

		Maximum Hazard Quotients [a]																				
		Metals/Metalloids																Organics				
Receptor	Reach	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium $^{+3}$	Cobalt	Copper	Lead	Manganese	Methylmercury	Nickel	Selenium	Silver	Vanadium	Zinc	Dioxins/Furans	Total DDTs	Total HPAHs	Total LPAHs	Total PCBs
Avian Receptors																						
Great Blue Heron	1	-	0.3	0.2	-	0.4	0.7	0.1	**18**	**13**	0.3	**3.1**	0.1	**2.4**	0.0	**2.0**	**12**	0.2	0.0	0.2	0.0	0.1
	2	-	0.3	0.2	-	0.2	0.5	0.1	**16**	**7.5**	0.3	**3.6**	0.1	**2.7**	0.0	**1.6**	**11**	0.2	0.0	0.0	0.0	0.5
	3	-	0.2	0.1	-	0.2	0.4	0.0	**12**	**5.5**	0.3	**5.1**	0.1	**2.8**	0.0	**2.1**	**11**	0.1	0.0	0.0	0.0	0.1
	4a	-	0.2	0.1	-	0.3	0.4	0.0	0.9	**3.9**	0.1	**5.8**	0.1	**1.3**	0.0	**2.0**	**0.8**	0.2	0.0	0.0	0.0	0.3
	4b	-	0.2	0.1	-	0.3	0.4	0.0	0.6	**3.9**	0.2	**5.3**	0.1	**1.3**	0.0	**2.2**	**0.6**	0.2	0.2	0.0	0.0	0.2
	5	-	0.2	0.1	-	0.4	0.4	0.0	0.6	**2.6**	0.2	**4.8**	0.1	**1.3**	0.0	**2.4**	**0.6**	0.3	0.0	0.0	0.0	0.2
	6	-	0.2	0.1	-	0.3	0.3	0.0	0.6	**2.1**	0.1	**5.3**	0.1	**1.2**	0.0	**1.9**	**0.6**	0.3	0.0	0.0	0.0	0.1
Osprey	1	-	0.1	0.0	-	0.1	0.4	0.0	**2.0**	**3.6**	0.1	**3.3**	0.0	1.0	0.0	0.7	**1.1**	0.2	0.0	0.0	0.0	0.1
	2	-	0.2	0.0	-	0.1	0.2	0.0	**1.2**	**2.1**	0.1	**3.5**	0.0	1.0	0.0	0.5	0.7	0.2	0.0	0.0	0.0	0.6
	3	-	0.1	0.0	-	0.1	0.2	0.0	1.0	**1.7**	0.1	**5.2**	0.0	**1.1**	0.0	0.6	0.6	0.1	0.0	0.0	0.0	0.1
	4a	-	0.2	0.0	-	0.1	0.3	0.0	0.2	**1.1**	0.0	**5.0**	0.0	0.8	0.0	0.7	0.1	0.2	0.0	0.0	0.0	0.2
	4b	-	0.2	0.0	-	0.1	0.3	0.0	0.2	**1.1**	0.0	**5.0**	0.0	0.8	0.0	0.7	0.1	0.2	0.0	0.0	0.0	0.2
	5	-	0.2	0.0	-	0.1	0.2	0.0	0.1	0.6	0.0	**4.8**	0.0	0.7	0.0	0.7	0.1	0.2	0.0	0.0	0.0	0.2
	6	-	0.2	0.0	-	0.1	0.2	0.0	0.2	0.6	0.0	**4.9**	0.0	0.6	0.0	0.6	0.2	0.3	0.0	0.0	0.0	0.1
Bald Eagle	1	-	0.0	0.0	-	0.0	0.1	0.0	0.9	**1.9**	0.0	0.6	0.0	0.2	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0
	2	-	0.0	0.0	-	0.0	0.1	0.0	0.8	**1.1**	0.0	0.7	0.0	0.2	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.1
	3	-	0.0	0.0	-	0.0	0.1	0.0	0.6	0.8	0.0	**1.0**	0.0	0.3	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0
	4a	-	0.0	0.0	-	0.0	0.1	0.0	0.1	0.6	0.0	**1.0**	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
	4b	-	0.0	0.0	-	0.0	0.1	0.0	0.0	0.6	0.0	1.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	5	-	0.0	0.0	-	0.0	0.1	0.0	0.0	0.4	0.0	0.9	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	6	-	0.0	0.0	-	0.0	0.1	0.0	0.0	0.3	0.0	1.0	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
Belted Kingfisher	1	-	**1.6**	**3.1**	-	**6.4**	**2.6**	0.8	**280**	**73**	**3.0**	**11**	0.5	**30**	0.1	**7.5**	**198**	0.3	0.0	**3.9**	0.0	0.4
	2	-	**1.3**	**2.7**	-	**2.6**	**2.1**	0.6	**256**	**42**	**3.0**	**16**	0.6	**35**	0.1	**5.9**	**185**	0.6	0.0	0.4	0.0	**1.1**
	3	-	0.7	**2.0**	-	**2.7**	**1.5**	0.4	**190**	**31**	**2.9**	**19**	**1.2**	**36**	0.0	**8.0**	**184**	0.6	0.1	0.5	0.0	0.7
	4a	-	0.6	**1.6**	-	**5.1**	**1.2**	0.2	**13**	**22**	0.7	**31**	0.9	**12**	0.0	**7.6**	**13**	0.7	0.2	0.5	0.0	**1.7**
	4b	-	0.5	**1.5**	-	**4.6**	**1.5**	0.2	**8.4**	**22**	**2.0**	**25**	**1.1**	**13**	0.0	**8.3**	**9.2**	0.6	**3.9**	0.8	0.0	0.6
	5	-	0.7	**1.4**	-	**5.8**	**1.5**	0.2	**7.7**	**15**	**2.3**	**19**	**1.2**	**14**	0.0	**9.1**	**9.4**	**1.2**	0.1	0.6	0.0	0.3
	6	-	0.5	**1.3**	-	**4.5**	**1.2**	0.2	**7.7**	**12**	**1.4**	**25**	0.9	**13**	0.0	**7.0**	**9.1**	0.9	0.4	0.5	0.0	0.2
Canada Goose	1	-	**1.1**	0.3	-	0.5	**2.0**	0.4	**20**	**42**	0.6	**1.9**	0.1	**2.5**	0.2	**9.5**	**8.2**	0.0	0.0	0.0	0.0	0.0
	2	-	0.8	0.3	-	0.2	**1.8**	0.3	**18**	**25**	0.6	**3.0**	0.1	**2.9**	0.2	**7.7**	**7.7**	0.0	0.0	0.0	0.0	0.0
	3	-	0.4	0.2	-	0.2	**1.3**	0.2	**14**	**19**	0.6	**3.2**	0.3	**3.0**	0.1	**10**	**7.7**	0.0	0.0	0.0	0.0	0.0
	4a	-	0.3	0.2	-	0.4	1.0	0.1	**1.2**	**14**	0.2	**6.0**	0.2	**1.1**	0.1	**9.7**	0.7	0.0	0.0	0.0	0.0	0.0
	4b	-	0.3	0.1	-	0.3	**1.2**	0.1	0.8	**14**	0.4	**4.6**	0.2	**1.1**	0.0	**10**	0.5	0.0	0.0	0.0	0.0	0.0
	5	-	0.4	0.1	-	0.4	**1.2**	0.1	0.7	**10**	0.5	**3.3**	0.3	**1.2**	0.0	**12**	0.5	0.0	0.0	0.0	0.0	0.0
	6	-	0.3	0.1	-	0.3	1.0	0.1	0.7	**8.1**	0.3	**4.6**	0.2	**1.2**	0.0	**8.9**	0.5	0.0	0.0	0.0	0.0	0.0
Tundra Swan	1	-	0.8	0.2	-	0.3	**1.5**	0.3	**15**	**31**	0.5	**1.4**	0.1	**1.9**	0.2	**7.1**	**6.1**	0.0	0.0	0.0	0.0	0.0
	2	-	0.6	0.2	-	0.1	**1.3**	0.2	**14**	**19**	0.5	**2.2**	0.1	**2.2**	0.1	**5.7**	**5.8**	0.0	0.0	0.0	0.0	0.0
	3	-	0.3	0.1	-	0.2	1.0	0.1	**10**	**14**	0.5	**2.4**	0.2	**2.2**	0.1	**7.6**	**5.7**	0.0	0.0	0.0	0.0	0.0
	4a	-	0.2	0.1	-	0.3	0.7	0.1	0.9	**10**	0.1	**4.5**	0.1	0.8	0.0	**7.2**	0.5	0.0	0.0	0.0	0.0	0.0

Table 6-5. Aquatic-dependent Wildlife SLERA Results

		Maximum Hazard Quotients [a]																				
		Metals/Metalloids																Organics				
Receptor	Reach	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium $^{+3}$	Cobalt	Copper	Lead	Manganese	Methylmercury	Nickel	Selenium	Silver	Vanadium	Zinc	Dioxins/Furans	Total DDTs	Total HPAHs	Total LPAHs	Total PCBs
Tundra Swan (continued)	4b	-	0.2	0.1	-	0.2	0.9	0.1	0.6	10	0.3	3.4	0.2	0.8	0.0	7.8	0.4	0.0	0.0	0.0	0.0	0.0
	5	-	0.3	0.1	-	0.3	0.9	0.1	0.5	7.4	0.4	2.5	0.2	0.9	0.0	8.6	0.4	0.0	0.0	0.0	0.0	0.0
	6	-	0.2	0.1	-	0.2	0.7	0.1	0.5	6.0	0.2	3.4	0.2	0.9	0.0	6.6	0.4	0.0	0.0	0.0	0.0	0.0
Mallard	1	-	1.0	1.3	-	2.6	1.6	0.4	112	42	1.4	3.5	0.2	12	0.1	6.4	77	0.0	0.0	1.5	0.0	0.1
	2	-	0.7	1.1	-	1.0	1.4	0.3	103	25	1.3	5.5	0.2	14	0.1	5.1	72	0.1	0.0	0.1	0.0	0.1
	3	-	0.4	0.8	-	1.1	1.0	0.2	76	18	1.3	6.0	0.6	14	0.1	6.9	72	0.2	0.0	0.2	0.0	0.2
	4a	-	0.3	0.6	-	2.0	0.7	0.1	5.3	13	0.3	12	0.4	4.7	0.0	6.5	5.0	0.2	0.1	0.2	0.0	0.5
	4b	-	0.2	0.6	-	1.8	1.0	0.1	3.4	13	0.9	9.0	0.5	4.8	0.0	7.0	3.6	0.1	1.5	0.3	0.0	0.1
	5	-	0.3	0.6	-	2.3	1.0	0.1	3.1	9	1.0	6.3	0.5	5.4	0.0	7.8	3.7	0.3	0.0	0.2	0.0	0.0
	6	-	0.2	0.5	-	1.8	0.8	0.1	3.1	8	0.6	9.0	0.4	5.2	0.0	5.9	3.5	0.2	0.1	0.2	0.0	0.0
Lesser Scaup	1	-	0.7	0.8	-	1.7	1.2	0.3	73	30.3	0.9	3.3	0.1	7.8	0.1	4.7	50	0.1	0.0	0.9	0.0	0.1
	2	-	0.6	0.7	-	0.7	1.0	0.2	67	17.8	0.9	4.8	0.2	9.3	0.1	3.8	46	0.1	0.0	0.1	0.0	0.3
	3	-	0.3	0.5	-	0.7	0.8	0.1	49	13.1	0.9	5.7	0.4	9.4	0.0	5.1	46	0.1	0.0	0.1	0.0	0.2
	4a	-	0.3	0.4	-	1.3	0.6	0.1	3.5	9.6	0.2	9.4	0.3	3.3	0.0	4.8	3.2	0.2	0.0	0.1	0.0	0.4
	4b	-	0.2	0.4	-	1.2	0.7	0.1	2.2	9.6	0.6	7.5	0.3	3.4	0.0	5.2	2.4	0.1	0.9	0.2	0.0	0.2
	5	-	0.3	0.4	-	1.5	0.7	0.1	2.1	6.7	0.7	5.7	0.4	3.7	0.0	5.7	2.4	0.3	0.0	0.1	0.0	0.1
	6	-	0.2	0.4	-	1.2	0.6	0.1	2.1	5.4	0.4	7.5	0.3	3.6	0.0	4.4	2.3	0.2	0.1	0.1	0.0	0.1
Spotted Sandpiper	1	-	6.3	10.7	-	22	9.3	2.9	971	293	11	25	1.6	99	0.5	33	681	0.1	0.1	13	0.0	0.8
	2	-	4.5	9.4	-	8.4	8.0	2.3	892	169	11	41	1.9	118	0.3	26	637	0.9	0.1	1.3	0.0	1.1
	3	-	2.2	7.1	-	8.9	5.8	1.4	659	122	10	45	4.3	119	0.2	36	635	1.4	0.3	1.8	0.0	1.8
	4a	-	1.7	5.5	-	17	4.1	0.7	45	89	2.6	89	3.1	40	0.1	34	44	1.7	0.6	1.6	0.0	4.9
	4b	-	1.4	5.2	-	16	5.4	0.6	29	89	7.1	67	3.9	40	0.1	36	31	1.1	13	2.9	0.0	1.1
	5	-	1.9	4.8	-	20	5.4	0.7	26	62	8.4	46	4.1	45	0.1	41	32	3.1	0.2	2.0	0.0	0.2
	6	-	1.3	4.5	-	15	4.2	0.7	26	49	5.1	67	3.2	44	0.1	30	31	1.7	1.2	1.6	0.0	0.2
Swallow	1	-	2.7	5.3	-	11	3.7	1.3	480	122	5.1	12	0.8	49	0.2	12	339	0.0	0.1	6.8	0.0	0.4
	2	-	1.9	4.6	-	4.2	3.2	1.0	441	70	5.1	20	0.9	59	0.1	9.6	318	0.4	0.1	0.7	0.0	0.6
	3	-	1.0	3.5	-	4.4	2.3	0.6	326	51	4.9	22	2.1	59	0.1	13	316	0.7	0.2	0.9	0.0	0.9
	4a	-	0.7	2.7	-	8.7	1.6	0.3	22	37	1.2	43	1.5	20	0.0	12	22	0.8	0.3	0.8	0.0	2.5
	4b	-	0.6	2.5	-	7.7	2.1	0.3	14	37	3.3	32	1.9	20	0.0	13	16	0.5	6.7	1.4	0.0	0.6
	5	-	0.8	2.3	-	9.9	2.1	0.3	13	26	3.9	23	2.0	22	0.0	15	16	1.5	0.1	1.0	0.0	0.1
	6	-	0.6	2.2	-	7.6	1.7	0.3	13	20	2.4	32	1.5	22	0.0	11	15	0.8	0.6	0.8	0.0	0.1
Mammalian Receptors																						
Mink	1	19	0.4	0.8	0.0	0.8	0.5	0.1	13	2.9	0.9	22	0.2	4.3	0.0	0.1	10.4	1.1	0.0	0.1	0.0	2.3
	2	5.6	0.4	0.7	0.0	0.4	0.3	0.1	11	1.7	0.8	26	0.2	5.0	0.0	0.1	9.6	1.0	0.0	0.0	0.0	10
	3	4.4	0.2	0.5	0.0	0.4	0.2	0.0	8.4	1.2	0.8	36	0.4	5.1	0.0	0.1	9.5	0.6	0.0	0.0	0.0	2.9
	4a	0.8	0.3	0.4	0.0	0.6	0.3	0.0	0.6	0.9	0.2	43	0.3	2.2	0.0	0.1	0.7	1.0	0.0	0.0	0.0	6.2
	4b	0.5	0.2	0.4	0.0	0.6	0.3	0.0	0.4	0.9	0.5	39	0.4	2.2	0.0	0.1	0.5	1.0	0.3	0.0	0.0	4.2
	5	1.1	0.3	0.4	0.0	0.7	0.3	0.0	0.4	0.6	0.6	34	0.4	2.2	0.0	0.1	0.5	1.1	0.0	0.0	0.0	3.5
	6	1.1	0.2	0.4	0.0	0.5	0.2	0.0	0.4	0.5	0.4	39	0.3	2.1	0.0	0.1	0.5	1.6	0.0	0.0	0.0	2.4

Table 6-5. Aquatic-dependent Wildlife SLERA Results

		Maximum Hazard Quotients [a]																				
		Metals/Metalloids																Organics				
Receptor	Reach	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium $^{+3}$	Cobalt	Copper	Lead	Manganese	Methylmercury	Nickel	Selenium	Silver	Vanadium	Zinc	Dioxins/Furans	Total DDTs	Total HPAHs	Total LPAHs	Total PCBs
River Otter	1	**16**	0.3	0.7	0.0	0.7	0.4	0.1	**12**	**2.4**	0.7	**17**	0.2	**3.9**	0.0	0.1	**9.8**	0.8	0.0	0.0	0.0	**1.8**
	2	**4.8**	0.3	0.6	0.0	0.3	0.3	0.0	**11**	**1.4**	0.7	**21**	0.2	**4.6**	0.0	0.1	**9.1**	0.7	0.0	0.0	0.0	**7.7**
	3	**3.8**	0.2	0.5	0.0	0.3	0.2	0.0	**7.9**	**1.0**	0.7	**29**	0.3	**4.7**	0.0	0.1	**9.0**	0.5	0.0	0.0	0.0	**2.4**
	4a	0.7	0.2	0.4	0.0	0.6	0.2	0.0	0.6	0.7	0.2	**35**	0.3	**1.9**	0.0	0.1	0.7	0.8	0.0	0.0	0.0	**5.2**
	4b	0.5	0.2	0.4	0.0	0.5	0.2	0.0	0.4	0.7	0.5	**31**	0.3	**1.9**	0.0	0.1	0.5	0.8	0.3	0.0	0.0	**3.3**
	5	0.9	0.2	0.3	0.0	0.6	0.2	0.0	0.3	0.5	0.5	**27**	0.3	**2.0**	0.0	0.1	0.5	0.8	0.0	0.0	0.0	**2.6**
	6	0.9	0.2	0.3	0.0	0.5	0.2	0.0	0.3	0.4	0.3	**31**	0.3	**1.9**	0.0	0.1	0.5	**1.2**	0.0	0.0	0.0	**1.8**
Little Brown Bat	1	**288**	**4.9**	**18**	0.1	**18**	**3.4**	**1.1**	**293**	**36**	**15**	**109**	**2.5**	**84**	0.0	0.8	**251**	0.1	0.1	**1.3**	0.0	**11**
	2	**89**	**3.5**	**16**	0.1	**6.8**	**3.0**	0.9	**269**	**21**	**15**	**177**	**3.0**	**100**	0.0	0.7	**235**	0.7	0.1	0.1	0.0	**15**
	3	**70**	**1.7**	**12**	0.1	**7.2**	**2.2**	0.6	**199**	**15**	**14**	**193**	**6.9**	**101**	0.0	0.9	**234**	**1.1**	0.2	0.2	0.0	**25**
	4a	**12**	**1.3**	**9.1**	0.1	**14**	**1.5**	0.3	**14**	**11**	**3.5**	**386**	**5.0**	**34**	0.0	0.9	**16**	**1.5**	0.4	0.1	0.0	**68**
	4b	**7**	**1.1**	**8.7**	0.1	**12**	**2.0**	0.2	**8.7**	**11**	**9.8**	**290**	**6.3**	**34**	0.0	0.9	**12**	0.9	**8.7**	0.3	0.0	**15**
	5	**15**	**1.5**	**7.9**	0.1	**16**	**2.0**	0.3	**8.0**	**7.5**	**12**	**201**	**6.5**	**38**	0.0	**1.0**	**12**	**2.4**	0.1	0.2	0.0	**2.2**
	6	**16**	**1.0**	**7.6**	0.1	**12**	**1.6**	0.3	**8.0**	**6.0**	**7.0**	**290**	**5.1**	**37**	0.0	0.8	**11**	**1.8**	0.8	0.2	0.0	**2.6**
Muskrat	1	**111**	**2.9**	**1.4**	0.2	**1.1**	**2.7**	0.5	**17**	**17**	**2.7**	**25**	0.5	**6.3**	0.1	1.0	**8.5**	0.0	0.0	0.0	0.0	0.1
	2	**38**	**2.2**	**1.2**	0.3	0.5	**2.4**	0.4	**16**	**10**	**2.6**	**39**	0.6	**7.4**	0.1	0.8	**8.0**	0.0	0.0	0.0	0.0	0.1
	3	**31**	**1.1**	1.0	0.3	0.5	**1.8**	0.2	**12**	**7.8**	**2.6**	**42**	**1.3**	**7.4**	0.0	**1.0**	**8.0**	0.0	0.0	0.0	0.0	0.2
	4a	**6.1**	0.9	0.8	0.3	0.9	**1.3**	0.1	**1.0**	**5.9**	0.7	**79**	1.0	**2.7**	0.0	1.0	0.7	0.0	0.0	0.0	0.0	0.5
	4b	**3.8**	0.7	0.7	0.3	0.8	**1.7**	0.1	0.7	**5.9**	**1.8**	**61**	**1.2**	**2.8**	0.0	**1.1**	0.5	0.0	0.0	0.0	0.0	0.1
	5	**7.8**	1.0	0.7	0.3	1.0	**1.7**	0.1	0.6	**4.2**	**2.1**	**44**	**1.2**	**3.1**	0.0	**1.2**	0.5	0.1	0.0	0.0	0.0	0.0
	6	**8.0**	0.7	0.6	0.3	0.8	**1.3**	0.1	0.6	**3.4**	**1.3**	**61**	1.0	**3.0**	0.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0
Raccoon	1	**21**	0.4	**1.0**	0.0	0.9	0.3	0.1	**16**	**3.1**	1.0	**6.6**	0.2	**4.6**	0.0	0.1	**13**	0.0	0.0	0.1	0.0	0.6
	2	**6.5**	0.3	0.9	0.0	0.4	0.3	0.1	**15**	**1.8**	1.0	**11**	0.2	**5.4**	0.0	0.1	**13**	0.1	0.0	0.0	0.0	0.9
	3	**5.1**	0.1	0.7	0.0	0.4	0.2	0.0	**11**	**1.3**	0.9	**12**	0.4	**5.5**	0.0	0.1	**13**	0.1	0.0	0.0	0.0	**1.3**
	4a	0.9	0.1	0.5	0.0	0.7	0.1	0.0	0.7	0.9	0.2	**23**	0.3	**1.8**	0.0	0.1	0.9	0.1	0.0	0.0	0.0	**3.5**
	4b	0.5	0.1	0.5	0.0	0.7	0.2	0.0	0.5	0.9	0.6	**17**	0.4	**1.9**	0.0	0.1	0.6	0.1	0.4	0.0	0.0	0.8
	5	**1.1**	0.1	0.4	0.0	0.9	0.2	0.0	0.4	0.7	0.7	**12**	0.4	**2.1**	0.0	0.1	0.6	0.2	0.0	0.0	0.0	0.2
	6	**1.2**	0.1	0.4	0.0	0.7	0.2	0.0	0.4	0.5	0.5	**17**	0.3	**2.0**	0.0	0.1	0.6	0.1	0.0	0.0	0.0	0.2

Notes:

[a] Maximum concentrations were compared to NOAEL TRVs and the resulting hazard quotient is shown in the table.
HQ - Hazard Quotient
NOAEL - No Observed Adverse Effect Level
TRV - Toxicity Reference Value
A HQ = 0.0 indicates that the HQ was less than 0.1
Bold values indicate a HQ > 1.0

Table 7-1. Scientific Management Decision Point Summary for the UCR SLERA

	Surface Water/Porewater Screening Results for Aquatic Life [a]		Sediment Screening Results for Benthic Invertebrates		Tissue Bioaccumulation Screening Results		Soil Screening Results for Terrestrial Plants, Invertebates and Wildlife		Aquatic Dependent Wildlife Screening	
Analyte	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision
Nutrients										
Ammonia	**2**	Gaps in spatial coverage	**2**	Gaps in spatial coverage	**2**	K_{ow} not applicable	**2**	Not measured	**2**	Gaps in spatial coverage/No SEV
Cyanide	**2**	Gaps in spatial coverage	**2**	Gaps in spatial coverage	**2**	K_{ow} not applicable	**2**	Not measured	**2**	Gaps in spatial coverage/No SEV
Nitrite-Nitrate	**2**	Gaps in spatial coverage	**2**	Gaps in spatial coverage	**2**	K_{ow} not applicable	**2**	Not measured	**2**	Gaps in spatial coverage/No SEV
Phosphorous	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Not measured	**2**	Gaps in spatial coverage/No SEV
Metals/Metalloids										
Aluminum	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Antimony	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**3**	HQ>1.0
Arsenic	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Barium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Beryllium	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**1, 3**	HQ<1.0 for mammals, No SEV for avians
Bismuth	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Boron	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Cadmium	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Calcium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Cerium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Cesium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Chloride	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Chromium	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Cobalt	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Copper	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Dysprosium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Erbium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Europium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Fluoride	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Gadolinium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Gallium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Germanium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Gold	**2**	Gaps in spatial coverage	**3**	Not measured	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Holmium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Indium	**2**	Gaps in spatial coverage	**3**	Not measured	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Iron	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Lanthanum	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Lead	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Lithium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Lutetium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Magnesium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Manganese	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Mercury	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**3**	HQ>1.0
Molybdenum	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Neodymium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Nickel	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Niobium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Potassium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Praseodymium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Rubidium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Samarium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Scandium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Selenium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Silicon (Silica)	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Silver	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**1**	HQ<1.0
Sodium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Strontium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Sulfur (Sulfate)	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Tantalum	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Tellurium	**2**	Gaps in spatial coverage	**3**	Not measured	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Terbium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Thallium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV

Table 7-1. Scientific Management Decision Point Summary for the UCR SLERA

Analyte	Surface Water/Porewater Screening Results for Aquatic Life [a] SMDP Decision [b]	Surface Water/Porewater Basis for Decision	Sediment Screening Results for Benthic Invertebrates SMDP Decision [b]	Sediment Basis for Decision	Tissue Bioaccumulation Screening Results SMDP Decision [b]	Tissue Basis for Decision	Soil Screening Results for Terrestrial Plants, Invertebates and Wildlife SMDP Decision [b]	Soil Basis for Decision	Aquatic Dependent Wildlife Screening SMDP Decision [b]	Aquatic Dependent Wildlife Basis for Decision
Metals/Metalloids (continued)										
Thorium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Thulium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Tin	**2**	Gaps in spatial coverage	**3**	Not measured	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Titanium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Tungsten	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Uranium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Vanadium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**2**	No SEV
Ytterbium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Yttrium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Zinc	**2**	Gaps in spatial coverage	**3**	Max Msd Conc. ≥ SEV	**2**	K_{ow} not applicable	**3**	Max Msd Conc. ≥ SEV	**3**	HQ>1.0
Zirconium	**2**	Gaps in spatial coverage	**2**	No SEV	**2**	K_{ow} not applicable	**2**	Gaps in spatial coverage/No SEV	**2**	No SEV
Dioxins/Furans										
1,2,3,4,6,7,8-HpCDD	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,4,6,7,8-HpCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,4,7,8,9-HpCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,4,7,8-HxCDD	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,4,7,8-HxCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,6,7,8-HxCDD	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,6,7,8-HCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,7,8,9-HxCDD	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,7,8,9-HxCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,7,8-PCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
1,2,3,7,8-PCDD	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
2,3,4,6,7,8-HxCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
2,3,4,7,8-PCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
2,3,7,8-TCDD	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
2,3,7,8-TCDF	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Octachlorodibenzodioxin	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Octachlorodibenzofuran	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
TCDD TEQ	**2**	Not measured	**3**	Max Msd Conc. > SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
PAHs										
2-Methylnaphthalene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**1** [c]	Log K_{ow} < 4.0	**2**	Not measured	**1**	HQ<1.0, as Total LPAHs
Acenaphthene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**1** [c]	Log K_{ow} < 4.0	**2**	Not measured	**1**	HQ<1.0, as Total LPAHs
Acenaphthylene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**1**	HQ<1.0, as Total LPAHs
Anthracene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**1**	HQ<1.0, as Total LPAHs
Benzo(a)anthracene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Benzo(a)pyrene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Benzo(b)fluoranthene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Benzo(ghi)perylene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Benzo(k)fluoranthene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Chrysene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Dibenzo(a,h)anthracene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Fluoranthene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Fluorene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**1**	HQ<1.0, as Total LPAHs
Indeno[1,2,3-cd]pyrene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Naphthalene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**1** [c]	Log K_{ow} < 4.0	**2**	Not measured	**1**	HQ<1.0, as Total LPAHs
Phenanthrene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**1**	HQ<1.0, as Total LPAHs
Pyrene	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
Total PAHs	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0, as Total HPAHs
PCBs										
Aroclor 1016	**2**	Not measured	**1** [c]	Total PCB Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Aroclor 1221	**2**	Not measured	**1** [c]	Total PCB Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Aroclor 1232	**2**	Not measured	**1** [c]	Total PCB Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Aroclor 1242	**2**	Not measured	**1** [c]	Total PCB Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Aroclor 1248	**2**	Not measured	**1** [c]	Total PCB Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Aroclor 1254	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Aroclor 1260	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Total PCBs	**2**	Not measured	**1** [c]	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0

Table 7-1. Scientific Management Decision Point Summary for the UCR SLERA

	Surface Water/Porewater Screening Results for Aquatic Life [a]		Sediment Screening Results for Benthic Invertebrates		Tissue Bioaccumulation Screening Results		Soil Screening Results for Terrestrial Plants, Invertebates and Wildlife		Aquatic Dependent Wildlife Screening	
Analyte	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision
PBDEs										
Total PBDEs	**2**	Not measured	**2**	Not measured	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	Not measured/No SEV
Pesticides										
2,4'-DDD	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
4,4'-DDD	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Total DDD	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
2,4'-DDE	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
4,4'-DDE	**2**	Gaps in spatial coverage	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Total DDE	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
2,4'-DDT	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
4,4'-DDT	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Total DDT	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Total DDx	**2**	Not measured	**3**	Total DDT and Metabolites ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**3**	HQ>1.0
Aldrin	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Atrazine	**2**	Gaps in spatial coverage	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
alpha-BHC	**2**	Gaps in spatial coverage	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
beta-BHC	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
gamma-BHC (Lindane)	**2**	Gaps in spatial coverage	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
alpha-Chlordane	**2**	Not measured	**1**	Total Chlordane < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
gamma-Chlordane	**2**	Not measured	**1**	Total Chlordane < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
cis-Nonachlor	**2**	Not measured	**1**	Total Chlordane < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
trans-Nonachlor	**2**	Not measured	**1**	Total Chlordane < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Oxychlordane	**2**	Not measured	**1**	Total Chlordane < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Total Chlordane	**2**	Not measured	**1**	Total Chlordane < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
delta-BHC	**2**	Not measured	**1**	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Dieldrin	**2**	Gaps in spatial coverage	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Endosulfan I	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Endosulfan II	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Endrin	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Endrin aldehyde	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Endrin ketone	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Endosulfan sulfate	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Heptachlor	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Heptachlor epoxide	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Hexachlorobenzene	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Hexachlorobutadiene	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Methoxychlor	**2**	Not measured	**3**	Max Msd Conc. ≥ SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Toxaphene	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
SVOCs										
1,1'-Biphenyl	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
1,2,4-Trichlorobenzene	**2**	Not measured	**1**	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
1,2-Dichlorobenzene	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
1,3-Dichlorobenzene	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
1,4-Dichlorobenzene	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,2'-oxybis(1-Chloropropane)	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,4,5-Trichlorophenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,4,6-Trichlorophenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,4-Dichlorophenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,4-Dimethylphenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,4-Dinitrophenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,4-Dinitrotoluene	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2,6-Dinitrotoluene	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2-Chloronaphthalene	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2-Chlorophenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2-Methylphenol (o-cresol)	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2-Nitroaniline	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
2-Nitrophenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
3,3'-Dichlorobenzidine	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV

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Analyte	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision	**SMDP Decision [b]**	Basis for Decision
SVOCs (continued)										
3-Nitroaniline	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
4,6-Dinitro-2-methylphenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
4-Bromophenyl-phenylether	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
4-Chloro-3-methylphenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
4-Chloroaniline	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
4-Chlorophenyl-phenyl ether	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
4-Methylphenol (p-cresol)	**2**	Not measured	**1**	Max Msd Conc. < SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
4-Nitroaniline	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
4-Nitrophenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Acetophenone	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Benzaldehyde	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Benzoic acid	**2**	Not measured	**1**	Not detected, Max DL Conc. < SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Benzyl alcohol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
bis(2-Chloroethoxy)methane	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Bis(2-chloroethyl)ether	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
bis(2-Ethylhexyl)phthalate	**2**	Not measured	**1**	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Butyl benzyl phthalate	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Caprolactam	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Carbazole	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Dibenzofuran	**2**	Not measured	**1**	Max Msd Conc. < SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Diethyl phthalate	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Dimethyl phthalate	**2**	Not measured	**3**	All DL > SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Di-n-butyl phthalate	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Di-n-octylphthalate	**2**	Not measured	**3**	All DL > SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Hexachlorocyclopentadiene	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Hexachloroethane	**2**	Not measured	**1**	DLs < SEV provide adequate spatial coverage	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Isophorone	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Nitrobenzene	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
N-Nitrosodi-n-propylamine	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
N-Nitrosodiphenylamine	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV
Pentachlorophenol	**2**	Not measured	**2**	No SEV	**2**	Log K_{ow} > 4.0	**2**	Not measured	**2**	No SEV
Phenol	**2**	Not measured	**2**	No SEV	**1**	Log K_{ow} < 4.0	**2**	Not measured	**2**	No SEV

Notes:

[a] Surface water data are only available for a limited number of locations. Screening was conducted on available data; however, all analytes require further evaluation in the BERA.

[b] The three types of SMDP decisions are as follows:

SMDP 1 = This COI **<u>will not</u>** be carried forward in the ecological risk assessment process for this medium and this receptor group. There is adequate information to conclude that this COI does not pose an unacceptable ecological risk with respect to this medium and receptor group.

SMDP 2 = This COI **<u>will</u>** be carried forward in the ecological risk assessment process for this medium and this receptor group. There is inadequate information to evaluate whether this COI poses an unacceptable ecological risk with respect to this medium and receptor group.

SMDP 3 = This COI **<u>will</u>** be carried forward in the ecological risk assessment process for this medium and this receptor group. There is adequate information to conclude that this COI may pose an unacceptable ecological risk with respect to this medium and receptor group.

[c] PAHs and PCBs have been screened out for benthic invertebrates exposed to sediments in this evaluation. Some PAHs have been screened out based on Log K_{ow}. It should be noted that these COIs have been associated with the Trail Facility.

APPENDIX A

SURFACE WATER AND POREWATER DATA TABLES AND SAMPLING LOCATION MAPS

APPENDIX A

Surface Water and Porewater Data Tables
And Sampling Location Maps

APPENDIX A

LIST OF TABLES

APPENDIX A

LIST OF MAPS

TABLES

Table A-1. Screening Results for Surface Water Collected by Ecology at Northport, WA from 2000 - 2006

		Screening	All Ecology Samples (2000 - 2006)							2000 [a]					2001					2002				
Analyte	Units	SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	Max DL	N	# DT	FOD	Max Msd	Max DL	N	# DT	FOD	Max Msd	Max DL
Nutrients																								
Ammonia	mg/L	2.07 [b]	84	11	13%	0.02	0	0.01	0	12	1	8%	0.02	0.01	12	2	17%	0.01	0.01	12	4	33%	0.01	0.01
Nitrite-Nitrate	mg/L	No SEV	84	84	100%	0.137	-	n/a	n/a	12	12	100%	0.122	n/a	12	12	100%	0.137	n/a	12	12	100%	0.111	n/a
Phosphorous	mg/L	No SEV	84	50	60%	0.018	-	0.01	-	12	2	17%	0.011	0.01	12	5	42%	0.013	0.01	12	0	0%	-	0.01
Dissolved Metals [b]																								
Arsenic	µg/L	150	26	26	100%	0.61	0	n/a	n/a	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.41	n/a
Cadmium	µg/L	0.19**	26	14	54%	0.24	1	0.1	0	0	-	-	-	-	0	-	-	-	-	2	1	50%	0.242	0.1
Chromium	µg/L	53**	26	16	62%	0.56	0	0.5	0	0	-	-	-	-	0	-	-	-	-	2	0	0%	-	0.25
Copper	µg/L	6.4**	26	25	96%	0.90	0	0.5	0	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.56	n/a
Lead	µg/L	1.6**	26	16	62%	0.07	0	0.02	0	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.045	n/a
Nickel	µg/L	37**	26	26	100%	0.88	0	n/a	n/a	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.51	n/a
Silver	µg/L	1.6**	26	1	4%	0.066	0	0.1	0	0	-	-	-	-	0	-	-	-	-	2	0	0%	-	0.1
Zinc	µg/L	74**	26	25	96%	7.40	0	1	0	0	-	-	-	-	0	-	-	-	-	2	2	100%	2.8	n/a
Total Metals [b]																								
Mercury	µg/L	0.012	26	4	15%	0.0022	0	0.004	0	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.0022	n/a
Total Recoverable Metals [c]																								
Arsenic	µg/L	5	38	38	100%	0.86	0	n/a	n/a	0	-	-	-	-	6	6	100%	0.53	n/a	8	8	100%	0.86	n/a
Cadmium	µg/L	0.02	26	1	4%	0.24	1	1	25	0	-	-	-	-	0	-	-	-	-	2	1	50%	0.240	0.1
Chromium	µg/L	8.9	26	1	4%	0.83	0	0.5	0	0	-	-	-	-	0	-	-	-	-	2	0	0%	-	0.5
Copper	µg/L	2**	26	26	100%	4.58	1	n/a	n/a	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.78	n/a
Lead	µg/L	2**	26	26	100%	1.96	1	n/a	n/a	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.46	n/a
Mercury	µg/L	0.03	26	4	15%	0.002	0	0.004	0	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.0022	n/a
Nickel	µg/L	65**	26	26	100%	0.95	0	n/a	n/a	0	-	-	-	-	0	-	-	-	-	2	2	100%	0.65	n/a
Silver	µg/L	0.1	26	0	0%	-	-	0.1	26	0	-	-	-	-	0	-	-	-	-	2	0	0%	-	0.1
Zinc	µg/L	30	26	4	15%	45	1	5	0	0	-	-	-	-	0	-	-	-	-	2	0	0%	-	5

Table A-1. Screening Results for Surface Water Collected by Ecology at Northport, WA from 2000 - 2006

Analyte	Units	Screening SEV	2003					2004					2005					2006				
			N	# DT	FOD	Max Msd	Max DL	N	# DT	FOD	Max Msd	Max DL	N	# DT	FOD	Max Msd	Max DL	N	# DT	FOD	Max Msd	Max DL
Nutrients																						
Ammonia	mg/L	2.07 [b]	12	1	8%	0.01	0.01	12	1	8%	0.012	0.01	12	0	0%	-	0.01	12	2	17%	0.01	0.01
Nitrite-Nitrate	mg/L	No SEV	12	12	100%	0.13	n/a	12	12	100%	0.119	n/a	12	12	100%	0.098	n/a	12	12	100%	0.108	n/a
Phosphorous	mg/L	No SEV	12	7	58%	0.018	0.01	12	12	100%	0.004	n/a	12	12	100%	0.004	n/a	12	12	100%	0.007	n/a
Dissolved Metals [b]																						
Arsenic	µg/L	150	6	6	100%	0.61	n/a	6	6	100%	0.52	n/a	6	6	100%	0.48	n/a	6	6	100%	0.59	n/a
Cadmium	µg/L	0.19**	6	4	67%	0.057	0.1	6	3	50%	0.027	0.02	6	2	33%	0.024	0.02	6	4	67%	0.031	0.02
Chromium	µg/L	53**	6	3	50%	0.32	0.5	6	5	83%	0.40	0.25	6	5	83%	0.43	0.25	6	3	50%	0.56	0.25
Copper	µg/L	6.4**	6	5	83%	0.64	0.5	6	6	100%	0.60	n/a	6	6	100%	0.51	n/a	6	6	100%	0.90	n/a
Lead	µg/L	1.6**	6	4	67%	0.054	0.02	6	5	83%	0.04	0.02	6	2	33%	0.04	0.02	6	3	50%	0.069	0.02
Nickel	µg/L	37**	6	6	100%	0.82	n/a	6	6	100%	0.64	n/a	6	6	100%	0.65	n/a	6	6	100%	0.88	n/a
Silver	µg/L	1.6**	6	0	0%	-	0.02	6	1	17%	0.066	0.02	6	0	0%	-	0.02	6	0	0%	-	0.02
Zinc	µg/L	74**	6	5	83%	4.5	1	6	6	100%	4.1	n/a	6	6	100%	2.5	n/a	6	6	100%	7.4	n/a
Total Metals [b]																						
Mercury	µg/L	0.012	6	0	0%	-	0.004	6	0	0%	-	0.002	6	1	17%	0.0022	0.002	6	1	17%	0.002	0.002
Total Recoverable Metals [c]																						
Arsenic	µg/L	5	6	6	100%	0.58	n/a	6	6	100%	0.62	n/a	6	6	100%	0.53	n/a	6	6	100%	0.51	n/a
Cadmium	µg/L	0.02	6	0	0%	-	0.1	6	0	0%	-	0.1	6	0	0%	-	0.1	6	0	100%	-	0.1
Chromium	µg/L	8.9	6	1	17%	0.83	0.5	6	0	0%	-	0.5	6	0	0%	-	0.5	6	0	0%	-	0.5
Copper	µg/L	2**	6	6	100%	4.58	n/a	6	6	100%	1.14	n/a	6	6	100%	0.87	n/a	6	6	100%	0.96	n/a
Lead	µg/L	2**	6	6	100%	1.22	n/a	6	6	100%	0.33	n/a	6	6	100%	1.96	n/a	6	6	100%	0.58	n/a
Mercury	µg/L	0.03	6	0	0%	-	0.004	6	0	0%	-	0.002	6	1	17%	0.0022	0.002	6	1	17%	0.002	0.002
Nickel	µg/L	65**	6	6	100%	0.95	n/a	6	6	100%	0.83	n/a	6	6	100%	0.77	n/a	6	6	100%	0.93	n/a
Silver	µg/L	0.1	6	0	0%	-	0.1	6	0	0%	-	0.1	6	0	0%	-	0.1	6	0	0%	-	0.1
Zinc	µg/L	30	6	1	17%	45	5	6	3	50%	9.4	5	6	0	0%	-	5	6	0	0%	-	5

Data source: Ecology (2007b). Raw data presented in Appendix Table A-2.

Notes:

a No metal analyses were conducted by Ecology in 2000; however, USGS did collect metals data in 2000, see Table A-4.

b Screening SEVs adopted from EPA (2006c) ambient water quality criteria or Ecology (2006c) water quality standards.

c Screening SEVs adopted from CCME (2007).

Shaded values are greater than or equal to the SEV.

** For hardness dependent screening SEVs, the hardness value used for the screening evaluation was the sample-specific value or, when a sample-specific value was not available, the arithmetic mean of hardness measurements (66.89 ± 4.5 mg/L CaCO3) collected between 2000 and 2006 in conjunction with the Ecology water quality monitoring was used (see Table A-2 for raw data). The value shown in the Screening SEV column represents the SEV adjusted to a hardness of 66.89 CaCO3.

SEV SEV
N Sample size
DT Number of detected samples
FOD Frequency of detection
Max Msd Maximum measured concentration
#Msd>SEV Number of measured samples greater than SEV
Max DL Maximum detection limit
#DL>SEV Number of detection limits from non-detected samples greater than SEV
n/a Not applicable since all concentrations were detected (FOD = 100%)

Table A-2. Surface Water Quality Data for Northport, WA Collected by Ecology (2007).

	Conventionals							Metals (µg/L)																
	Hardness	Temperature	pH	Ammonia (Total)	Nitrite-Nitrate	Phosphorous	TSS	As		Cd		Cr		Cu		Pb		Hg	Ni		Ag		Zn	
Sample Date	mg/L ($CaCO_3$)	°C	SU	mg/L	mg/L	mg/L	mg/L	D	TR	D	TR	D	TR	D	TR	D	TR	Total	D	TR	D	TR	D	TR
Jan-00	-	3.4	7.90	0.01 U	0.122	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-00	-	1.8	8.20	0.01 U	0.114	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar-00	-	2.9	8.10	0.01 U	0.100	0.010 U	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr-00	-	5.1	8.20	0.01 U	0.082	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-00	-	6.9	7.40	0.01 U	0.061	0.010	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun-00	-	8.7	8.50	0.01 U	0.062	0.010 U	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jul-00	-	13.2	8.20	0.01 U	0.055	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-00	-	16.7	8.19	0.01 U	0.053	0.011	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep-00	-	14.7	8.65	0.01 U	0.087	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-00	-	10.4	8.07	0.01 U	0.065	0.010 U	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-00	-	6.2	8.03	0.01 U	0.070	0.010 U	1 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-00	-	4.2	7.84	0.02	0.101	0.010 U	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jan-01	-	3.2	8.03	0.01 U	0.137	0.010 U	1 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-01	-	2.6	8.11	0.01 U	0.132	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar-01	-	3.8	8.00	0.01 U	0.125	0.010	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr-01	-	5.5	8.12	0.01 U	0.100	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-01	-	9.8	8.17	0.01	0.074	0.010	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun-01	-	15.0	8.21	0.01	0.070	0.012	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jul-01	-	17.5	8.40	0.01 UJ	0.043 J	0.010 UJ	2 J	-	0.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-01	-	18.5	8.46	0.01 U	0.034	0.010 U	2	-	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep-01	-	17.2	8.41	0.01 UJ	0.017 J	0.010 UJ	1 J	-	0.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-01	-	12.2	8.04	0.01 UJ	0.053	0.013 J	2	-	0.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov-01	-	9.4	7.92	0.01 UJ	0.076 J	0.012 J	1	-	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-01	-	6.7	7.78	0.01 U	0.114	0.010 U	2	-	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jan-02	-	3.6	8.17	0.01 U	0.106	0.010 U	1	-	0.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-02	-	3.2	7.46	0.01 U	0.107	0.010 U	1	-	0.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar-02	-	2.7	8.26	0.01 U	0.107	0.010 U	1	-	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr-02	-	5.6	8.12	0.01	0.074	0.010 U	3	-	0.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May-02	-	7.9	7.84	0.01 U	0.071	0.010 U	2	-	0.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun-02	-	11.1	8.27	0.01 U	0.051	0.010 U	11	-	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jul-02	-	16.3	7.67	0.01	0.034	0.010 U	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-02	-	17.7	8.54	0.01	0.019	0.010 U	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep-02	-	17.0	8.49	0.01 U	0.030	0.010 U	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-02	61.0	12.6	8.27	0.01	0.047	0.010 U	2	0.41	0.40	0.1 U	0.1 U	0.25 U	0.5 U	0.33	0.49	0.025	0.29	0.0021	0.47	0.65	0.1 U	0.1 U	1.8	5 U
Nov-02	-	7.8	8.39	0.01 U	0.087	0.010 U	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-02	62.8	5.6	7.60	0.01 U	0.111	0.010 U	1	0.38	0.30	0.242	0.24	0.25 U	0.5 U	0.56	0.78	0.045	0.46	0.0022	0.51	0.58	0.1 U	0.1 U	2.8	5 U
Jan-03	-	4.2	7.63	0.01 U	0.130	0.010 U	1 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-03	70.7	3.2	7.84	0.01 U	0.108	0.010 U	1 U	0.47	0.38	0.057	0.1 U	0.27	0.5 U	0.62	0.74	0.031	0.17	0.002 U	0.5	0.59	0.02 U	0.1 U	4.5	5 U
Mar-03	-	3.5	7.86	0.01 U	0.108	0.013	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr-03	71.7	5.6	7.64	0.01 U	0.079	0.011	4	0.61	0.55	0.1 U	0.1 U	0.5 U	0.5 U	0.5 U	0.97 J	0.038	0.24	0.004 U	0.55	0.72	0.02 U	0.1 U	2	5 U
May-03	-	8.8	8.12	0.01 U	0.064	0.010 U	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun-03	65.6	12.5	8.05	0.01 U	0.043	0.018	6	0.58	0.58	0.021	0.1 U	0.25 U	0.83	0.64	4.58	0.054	1.22	0.002 U	0.47	0.63	0.02 U	0.1 U	1.9	45
Jul-03	-	16.6	8.27	0.01 U	0.031	0.010	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-03	63.4	19.9	8.47	0.01 U	0.018	0.010 U	2	0.42	0.4	0.02 U	0.1 U	0.25 U	0.5 U	0.49	1.71	0.02 U	0.37	0.002 U	0.48	0.62	0.02 U	0.1 U	1 U	5 U
Sep-03	-	18.4	8.38	0.01	0.024	0.010 U	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-03	63.6	15.0	7.99	0.01 U	0.030	0.003	2	0.47	0.34	0.024	0.1 U	0.32	0.5 U	0.56	0.62	0.021	0.2	0.002 UJ	0.73 J	0.79	0.02 U	0.1 U	3	5 U
Nov-03	-	9.7	8.02	0.01 U	0.051	0.003	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-03	66.6	4.7	7.68	0.01 U	0.114	0.003	1	0.34	0.33	0.022	0.1 U	0.3	0.5 U	0.56	0.6	0.02 U	0.12	0.002 U	0.82	0.95	0.02 U	0.1 U	2.3	5 U
Jan-04	-	2.6	8.10	0.01 U	0.119	0.003	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-04	77.3	2.4	-	0.01 U	0.095	0.003	2	0.48	0.49	0.027	0.1 U	0.4	0.5 U	0.6	0.89	0.04	0.3	0.002 U	0.64	0.61	0.02 U	0.1 U	4.1	6.1
Mar-04	-	3.7	8.14	0.01 U	0.102	0.003	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr-04	65.4	7.2	8.18	0.01 U	0.079	0.003	2	0.41	0.48	0.027	0.1 U	0.25 U	0.5 U	0.51	1.14	0.023	0.33	0.002 U	0.33	0.66	0.02 U	0.1 U	2.6	9.4
May-04	-	9.9	7.92	0.01 U	0.067	0.004	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun-04	58.3	12.1	8.21	0.01 U	0.055	0.004	2	0.39	0.37	0.02 U	0.1 U	0.37	0.5 U	0.52	0.71	0.029	0.29	0.002 U	0.45	0.46	0.02 U	0.1 U	2.2	6.2
Jul-04	-	17.1	7.73	0.01 U	0.032	0.004	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-2. Surface Water Quality Data for Northport, WA Collected by Ecology (2007).

	Conventionals							Metals (µg/L)																
	Hardness	Temperature	pH	Ammonia (Total)	Nitrite-Nitrate	Phosphorous	TSS	As		Cd		Cr		Cu		Pb		Hg	Ni		Ag		Zn	
Sample Date	mg/L ($CaCO_3$)	°C	SU	mg/L	mg/L	mg/L	mg/L	D	TR	D	TR	D	TR	D	TR	D	TR	Total	D	TR	D	TR	D	TR
Aug-04	63.8	20.1	8.39	0.01 U	0.027	0.003	2	0.39	0.38	0.02 U	0.1 U	0.28	0.5 U	0.46	0.58	0.02	0.21	0.002 U	0.63	0.83	0.066	0.1 U	1.7	5 U
Sep-04	-	16.5	8.20	0.01 U	0.041	0.003	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-04	68.4	14.8	8.31	0.01 U	0.030	0.002	1	0.52	0.62	0.02 U	0.1 U	0.29	0.5 U	0.52	0.54	0.02	0.18 J	0.002 U	0.47	0.5	0.02 U	0.1 U	3.3	5 U
Nov-04	-	9.8	8.20	0.012	0.050	0.003	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-04	67.6	4.8	8.03	0.01 U	0.095	0.003	1 U	0.38	0.39 J	0.022	0.1 U	0.36	0.5 U	0.44	0.84 J	0.02 U	0.23	0.002 U	0.5	0.67	0.02 U	0.1 U	3.5	5 U
Jan-05	-	3.8	7.59	0.01 U	0.098	0.002	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-05	72.2	3.1	7.97	0.01 U	0.098	0.002	1 U	0.45	0.39	0.024	0.1 U	0.25 U	0.5 U	0.44	0.65	0.02 U	0.13	0.002 U	0.56	0.67	0.02 U	0.1 U	2.5	5 U
Mar-05	-	4.3	8.26	0.01 U	0.088	0.003	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr-05	68.9	4.9	8.25	0.01 U	0.077	0.003	2	0.44	0.45 J	0.023	0.1 U	0.43	0.5 U	0.45	0.73	0.02 U	0.28	0.0022	0.58	0.9	0.02 U	0.1 U	2.5	5 U
May-05	-	9.4	8.00	0.01 U	0.062	0.004	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun-05	62.0	12.4	8.30	0.01 U	0.055	0.003	4	0.48	0.53	0.02 U	0.1 U	0.38	0.5 U	0.48	0.87 J	0.02 U	0.34 J	0.002 U	0.43	0.61	0.02 U	0.1 U	2.4	5 U
Jul-05	-	15.4	8.32	0.01 U	0.045	0.004	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-05	63.3	18.1	8.27	0.01 U	0.033	0.004	2	0.33	0.27	0.02 U	0.1 U	0.37	0.5 U	0.46	0.64	0.02 U	0.22	0.002 U	0.65 J	0.72	0.02 U	0.1 U	1.4	5 U
Sep-05	-	16.0	8.31	0.01 U	0.060	0.003	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-05	66.3	13.5	8.25	0.01 U	0.056	0.003	2	0.46	0.47	0.02 U	0.1 U	0.28	0.5 U	0.51	0.6	0.021	0.21	0.002 U	0.64	0.77	0.02 U	0.1 U	1.8	5 U
Nov-05	-	8.1	8.16	0.01 U	0.058	0.004	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-05	70.8	5.2	8.14	0.01 U	0.088	0.004	3	0.37	0.36	0.02 U	0.1 U	0.4	0.5 U	0.48	0.63	0.04	1.96	0.002 U	0.53	0.74	0.02 U	0.1 U	1.6	5 U
Jan-06	-	4.1	7.88	0.01 U	0.108	0.004	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-06	74.5	3.8	8.15	0.01 U	0.098	0.004	2	0.59	0.51	0.027	0.1 U	0.3	0.5 U	0.59	0.72	0.069	0.21	0.002 U	0.46	0.56	0.02 U	0.1 U	2.3	5 U
Mar-06	-	3.5	7.97	0.01 U	0.091	0.004	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr-06	72.5	6.5	8.20	0.01 U	0.063	0.004	4	0.55	0.46	0.031	0.1 U	0.25 U	0.5 U	0.56	0.88	0.045	0.38	0.002 U	0.51	0.57	0.02 U	0.1 U	3	5 U
May-06	-	8.6	8.27	0.01 U	0.057	0.006	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun-06	62.3	12.2	8.27	0.01 U	0.044	0.007	6	0.48	0.49	0.02 U	0.1 U	0.56	0.5 U	0.9	0.96	0.02 U	0.58	0.002	0.69	0.52	0.02 U	0.1 U	7.4	5 U
Jul-06	-	-	8.31	0.01 U	0.019	0.004	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug-06	65.4	17.5	8.42	0.01 U	0.045	0.003	2	0.24	0.19	0.02 U	0.1 U	0.38	0.5 U	0.45	0.6	0.02 U	0.19	0.002 U	0.79	0.9	0.02 U	0.1 U	2	5 U
Sep-06	-	16.5	8.20	0.01	0.060	0.004	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct-06	65.4	14.8	-	0.01 U	0.055	0.004	1	0.35	0.35	0.02	0.1 U	0.25 U	0.5 U	0.47	0.54	0.02 U	0.23	0.002 U	0.53	0.53	0.02 U	0.1 U	1.4	5 U
Nov-06	-	8.1	8.04	0.01	0.062	0.005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec-06	69.4	5.4	8.14	0.01 U	0.105	0.002 J	1	0.36	0.41	0.021	0.1 U	0.25 U	0.5 U	0.55	0.57	0.033	0.19	0.002 U	0.88	0.93	0.02 U	0.1 U	3.3	5 U

Notes:

Data summarized from Ecology (2007).

Abbreviations:

D	Dissolved fraction
TR	Total recoverable fraction
J	Estimated value
U	Undetected value
UJ	Detected below the MDL, value estimated
"-"	No data

Table A-3. Screening Results for Surface Water Collected by USGS at Northport, WA in 2000 and Throughout the UCR in 2004

Analyte	Units	Screening SEV	Surface water at Northport, WA in 2000 N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	Surface water throughout the UCR in 2004 N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Nutrients [a]																
Ammonia	mg/L	2.07	7	6	86%	0.019	0	0.002	0	0	-	-	-	-	-	-
Cyanide	µg/L	5.2	7	0	0%	-	-	0.018	0	0	-	-	-	-	-	-
Phosphorous	mg/L	no SEV	7	2	29%	0.003	-	0.006	-	2	0	0%	-	-	0.05	-
Dissolved Metals [a]																
Aluminum	µg/L	87	3	0	0%	-	-	19	0	2	2	100%	11.5	0	n/a	n/a
Antimony	µg/L	no SEV	3	0	0%	-	-	1	-	2	1	50%	0.46	-	0.3	-
Arsenic	µg/L	150	7	1	14%	1	0	2	0	2	0	0%	-	-	1	0
Barium	µg/L	no SEV	3	3	100%	37	-	n/a	n/a	2	2	100%	34.9	-	n/a	-
Beryllium	µg/L	no SEV	3	0	0%	-	-	1	-	2	0	0%	-	-	0.05	-
Bismuth	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.2	-
Boron	µg/L	no SEV	7	1	14%	8.5	-	16	-	0	-	-	-	-	-	-
Cadmium	µg/L	0.19*	3	0	0%	-	-	1	3	2	1	50%	0.11	0	0.1	0
Calcium	mg/L	no SEV	7	7	100%	19.8	-	n/a	n/a	2	2	100%	17.3	-	n/a	-
Cerium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.05	-
Cesium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.02	-
Chloride	mg/L	230	7	7	100%	0.99	0	n/a	n/a	0	-	-	-	-	-	-
Chromium	µg/L	53*	3	0	0%	-	-	0.8	0	2	0	0%	-	-	5	0
Cobalt	µg/L	no SEV	3	0	0%	-	-	1	-	2	1	50%	0.11	-	0.1	-
Copper	µg/L	6.4*	3	0	0%	-	-	1	0	2	2	100%	0.99	0	n/a	n/a
Dysprosium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.04	-
Erbium	µg/L	no SEV	0	-	-	-	-	-	-	2	1	50%	0.03	-	0.025	-
Europium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.025	-
Gadolinium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.025	-
Gallium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.05	-
Germanium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.25	-
Holmium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.25	-
Fluoride	mg/L	no SEV	7	0	0%	-	-	0.1	-	0	-	-	-	-	-	-
Iron	µg/L	1000	7	3	43%	10	0	10	0	2	0	0%	-	-	250	0
Lanthanum	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.1	-
Lead	µg/L	1.6*	3	0	0%	-	-	1	0	2	0	0%	-	-	0.25	0
Lithium	µg/L	no SEV	7	2	29%	2	-	4	-	2	0	0%	-	-	4.5	-
Lutetium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.5	-
Magnesium	mg/L	no SEV	7	7	100%	4.71	-	n/a	n/a	2	2	100%	4.25	-	n/a	-
Manganese	µg/L	no SEV	3	2	67%	1.9	-	1	-	2	0	0%	-	-	5	-
Molybdenum	µg/L	no SEV	3	0	0%	-	-	1	-	2	0	0%	-	-	2	-
Neodymium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.05	-
Nickel	µg/L	37*	3	2	67%	1.63	0	1	0	9	0	0%	-	-	0.4	0
Niobium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	1	-
Potassium	mg/L	no SEV	7	7	100%	0.73	-	n/a	n/a	2	2	100%	0.8	-	n/a	-
Praseodymium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.05	-
Rubidium	µg/L	no SEV	0	-	-	-	-	-	-	2	2	100%	0.86	-	n/a	-
Samarium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.09	-
Scandium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	3	-
Selenium	µg/L	5	7	0	0%	-	-	2	0	2	0	0%	-	-	5	2
Silica	mg/L	no SEV	7	7	100%	6.81	-	n/a	n/a	2	2	100%	3.3	-	n/a	-

Table A-3. Screening Results for Surface Water Collected by USGS at Northport, WA in 2000 and Throughout the UCR in 2004

Analyte	Units	Screening SEV	Surface water at Northport, WA in 2000 N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	Surface water throughout the UCR in 2004 N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Dissolved Metals (continued) [a]																
Silver	µg/L	1.6*	3	0	0%	-	-	1	0	2	0	0%	-	-	15	2
Sodium	mg/L	no SEV	7	7	100%	2.19	-	n/a	n/a	2	2	100%	1.87	-	n/a	-
Strontium	µg/L	no SEV	7	7	100%	101	-	n/a	n/a	2	2	100%	83	-	n/a	-
Sulfate	mg/L	no SEV	7	7	100%	8.9	-	n/a	n/a	2	2	100%	33	-	n/a	-
Tantalum	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.1	-
Terbium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.1	-
Thallium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.2	-
Thorium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	1	-
Thulium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.045	-
Titanium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	2.5	-
Tungsten	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.5	-
Uranium	µg/L	no SEV	3	0	0%	-	-	1	-	2	0	0%	-	-	0.5	-
Vanadium	µg/L	no SEV	7	0	0%	-	-	10	-	2	0	0%	-	-	2.5	-
Ytterbium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.025	-
Yttrium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	0.05	-
Zinc	µg/L	74*	3	0	0%	-	-	4.7	0	2	0	0%	-	-	2.5	0
Zirconium	µg/L	no SEV	0	-	-	-	-	-	-	2	0	0%	-	-	1	-
Pesticides (filtered)																
Atrazine	µg/L	no SEV	7	0	0%	-	-	0.008	-	0	-	-	-	-	-	-
alpha-BHC	µg/L	no SEV	7	0	0%	-	-	0.005	-	0	-	-	-	-	-	-
Dieldrin	µg/L	0.002	7	0	0%	-	-	0.005	1	0	-	-	-	-	-	-
Lindane	µg/L	0.08	7	0	0%	-	-	0.004	0	0	-	-	-	-	-	-
p,p'-DDE	µg/L	no SEV	7	2	29%	0.002	-	0.006	-	0	-	-	-	-	-	-

Data sources: USGS (2006) and Paulson et al. (2006). Raw data presented in Tables A-4 and A-6.

Notes:

Shaded values are greater than or equal to the SEV.

[a] Screening SEVs for dissolved metals adopted from EPA (2006c) and Ecology (2006c). Comparisons with CCME (2007) SEVs were not conducted because the CCME SEVs are applicable to total metals concentrations rather than dissolved concentrations.

* For hardness dependent screening SEVs, the hardness value used for the screening evaluation was the sample-specific value or, when a sample-specific value was not available, the arithmetic mean of hardness measurements (66.89 ± 4.5 mg/L $CaCO_3$) collected between 2000 and 2006 in conjunction with the Ecology water quality monitoring was used (see Table A-2 for raw data). The value shown in the Screening SEV column represents the SEV adjusted to a hardness of 66.89 $CaCO_3$.

SEV Screening Ecotoxicty Value
N Sample size
DT Number of detected samples
FOD Frequency of detection
Max Msd Maximum measured concentration
#Msd>SEV Number of measured samples greater than SEV
Max DL Maximum detection limit
#DL>SEV Number of detection limits from non-detected samples greater than SEV
n/a Not applicable since all concentrations were detected (FOD = 100%)

Table A-4. Surface Water Quality Data for Northport, WA (Station # 12400520) Collected by USGS (2006)

Analyte	Sample Type	Units	Sample Date**						
			2/8/00	3/15/00	4/12/00	5/9/00	6/13/00	8/22/00	9/27/00
Conventionals									
Alkalinity	Lab filtered	mg/L as $CaCO_3$	65	64	66	63	56	54	57
Alkalinity	Field filtered	mg/L as $CaCO_3$	62	61	64	62	52	51	50
Ammonia	Filtered	mg/L as N	0.004	<0.002	0.009	0.004	0.008	0.013	0.019
Ammonia + Organic N	Filtered	mg/L as N	<0.10	<0.10	E 0.06	E 0.09	E 0.09	E 0.07	E 0.08
Ammonia + Organic N	Unfiltered	mg/L as N	E 0.07	0.11	0.12	0.29	0.14	E 0.10	0.15
Barometric Pressure	-	mm Hg	727	733	727	719	733	730	732
Bicarbonate	Field filtered	mg/L	76	74	78	75	63	62	61
Carbonate	Field filtered	mg/L	0	0	0	0	0	0	0
Cyanide	Filtered	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.018
Discharge	-	cfs	109000	91400	66200	99000	141000	74100	71300
Dissolved Oxygen	-	mg/L	12.7	12.2	12.4	12.6	11.9	10	9.7
Gage Height	-	ft	104.62	102.39	99.69	103.37	108.27	100.37	100.23
Nitrite	Filtered	mg/L as N	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.002
Nitrite + Nitrate	Filtered	mg/L as N	0.111	0.108	0.064	0.066	0.048	0.069	0.077
Organic Carbon	Filtered	mg/L	1.1	1.3	1.5	1.6	1.3	1.3	1.1
Orthophosphate	Filtered	mg/L as P	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.001
pH	Field unfiltered	s.u.	8.1	8	8.2	8.1	8	8.2	8.2
pH	Lab unfiltered	s.u.	7.8	7.9	7.8	7.5	7.9	8	7.9
Phosphorous	Unfiltered	mg/L	<0.008	<0.008	E 0.006	E 0.006	0.009	E 0.006	<0.008
Phosphorous	Filtered	mg/L	<0.006	<0.006	<0.006	<0.006	E 0.003	<0.006	E 0.003
Specific Conductance	Unfiltered	uS/cm, 25 °C	148	146	148	143	127	124	130
Temperature	-	°C	3.7	4.5	7.4	8.8	11	18	14.7
Total Organic Carbon	Unfiltered	mg/L	<0.2	0.2	0.2	<0.2	0.2	<0.2	<0.2
Total Suspended Solids	Unfiltered	mg/L	2	2	5	6	4	2	1
Turbidity	-	NTU	0.6	0.45	0.64	0.7	0.5	0.3	0.41
Metals/Metalloids									
Aluminum	Filtered	µg/L	-	-	< 4	< 19	< 12	-	-
Antimony	Filtered	µg/L	-	-	< 1.00	< 1.00	< 1.00	-	-
Arsenic	Filtered	µg/L	< 2	< 2	E 1	< 2	< 2	< 2	< 2
Barium	Filtered	µg/L	-	-	37	35	26	-	-
Beryllium	Filtered	µg/L	-	-	< 1.00	< 1.00	< 1.00	-	-
Boron	Filtered	µg/L	< 16	< 16	E 8.5	< 16	< 16	< 16	< 16
Cadmium	Filtered	µg/L	-	-	< 1.00	< 1.00	< 1.00	-	-
Calcium	Filtered	mg/L	19.4	19.8	18.4	18.9	16.9	17	18
Chloride	Filtered	mg/L	0.9	0.99	0.98	0.89	0.87	0.75	0.64
Chromium	Filtered	µg/L	-	-	<0.8	<0.8	<0.8	-	-
Cobalt	Filtered	µg/L	-	-	< 1.00	< 1.00	< 1.00	-	-
Copper	Filtered	µg/L	-	-	< 1.0	< 1.0	< 1.0	-	-
Fluoride	Filtered	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Table A-4. Surface Water Quality Data for Northport, WA (Station # 12400520) Collected by USGS (2006)

Analyte	Sample Type	Units	Sample Date**						
			2/8/00	3/15/00	4/12/00	5/9/00	6/13/00	8/22/00	9/27/00
Metals/Metalloids (continued)									
Iron	Filtered	µg/L	< 10	E 6	E 10	< 10	E 9	< 10	< 10
Lead	Filtered	µg/L	-	-	< 1.00	< 1.00	< 1.00	-	-
Lithium	Filtered	µg/L	< 4	< 4	E 2	< 4	E 2	< 4	< 4
Magnesium	Filtered	mg/L	4.56	4.71	4.45	4.6	4.04	3.85	4.06
Manganese	Filtered	µg/L	-	-	1.9	1.1	< 1.0	-	-
Molybdenum	Filtered	µg/L	-	-	< 1.0	< 1.0	< 1.0	-	-
Nickel	Filtered	µg/L	-	-	< 1.00	1.63	1.46	-	-
Potassium	Filtered	mg/L	0.59	0.64	0.73	0.6	0.59	0.63	0.61
Selenium	Filtered	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Silica	Filtered	mg/L	4.76	5.52	6.81	6.59	5.2	3.41	3.69
Silver	Filtered	µg/L	-	-	< 1.0	< 1.0	< 1.0	-	-
Sodium	Filtered	mg/L	1.76	1.86	2.19	2.13	1.72	1.48	1.43
Strontium	Filtered	µg/L	91.6	100	80.4	76.4	86.4	101	87.8
Sulfate	Filtered	mg/L	8.4	8.9	8.2	7.3	6.5	8.1	7.7
Uranium	Filtered	µg/L	-	-	< 1.00	< 1.00	< 1.00	-	-
Vanadium	Filtered	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Zinc	Filtered	µg/L	-	-	< 2.1	< 4.7	< 3.2	-	-
Pesticides									
Acetochlor	Filtered	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.004
Alachlor	Filtered	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
alpha-BHC	Filtered	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
Atrazine	Filtered	µg/L	<0.001	<0.001	<0.008	<0.001	<0.001	<0.001	<0.007
Butylate	Filtered	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chlorpyrifos	Filtered	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.005
De-ethylatrazine (CIAT)	Filtered	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.006
Diazinon	Filtered	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
Dieldrin	Filtered	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
Fonofos	Filtered	µg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Lindane	Filtered	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Malathion	Filtered	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.027
Metolachlor	Filtered	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.013
Metribuzin	Filtered	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.006
p,p'-DDE	Filtered	µg/L	E 0.002	<0.006	<0.006	E 0.002	<0.006	<0.006	<0.003
Parathion	Filtered	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.007
Prometon	Filtered	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Propachlor	Filtered	µg/L	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.010
Simazine	Filtered	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.011
Terbuthylazine	Filtered	µg/L	U	U	U	U	U	U	U

Table A-4. Surface Water Quality Data for Northport, WA (Station # 12400520) Collected by USGS (2006)

Analyte	Sample Type	Units	Sample Date**						
			2/8/00	3/15/00	4/12/00	5/9/00	6/13/00	8/22/00	9/27/00
Pesticides (continued)									
2,6-Diethylaniline	Filtered (0.7 u GF)	µg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002
Benfluralin	Filtered (0.7 u GF)	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010
Carbaryl	Filtered (0.7 u GF)	µg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.041
Carbofuran	Filtered (0.7 u GF)	µg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.020
Cis-Peremethrin	Filtered (0.7 u GF)	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.006
Dacthal (DCPA)	Filtered (0.7 u GF)	µg/L	E 0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.003
Disulfoton	Filtered (0.7 u GF)	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Eptam (EPTC)	Filtered (0.7 u GF)	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ethalfluralin	Filtered (0.7 u GF)	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.009
Ethoprop	Filtered (0.7 u GF)	µg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.005
Linuron	Filtered (0.7 u GF)	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.035
methyl-azinphos	Filtered (0.7 u GF)	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.050
Methylparathion	Filtered (0.7 u GF)	µg/L	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Molinate	Filtered (0.7 u GF)	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.002
Napropamide	Filtered (0.7 u GF)	µg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.007
Pebulate	Filtered (0.7 u GF)	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.002
Pendimethalin	Filtered (0.7 u GF)	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.010
Phorate	Filtered (0.7 u GF)	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.011
Propanil	Filtered (0.7 u GF)	µg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.011
Propargite	Filtered (0.7 u GF)	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02
Propyzamide	Filtered (0.7 u GF)	µg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.004
Tebuthiuron	Filtered (0.7 u GF)	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02
Terbacil	Filtered (0.7 u GF)	µg/L	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.034
Terbufos	Filtered (0.7 u GF)	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02
Thiobencarb	Filtered (0.7 u GF)	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
Triallate	Filtered (0.7 u GF)	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
Trifluralin	Filtered (0.7 u GF)	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.009

Notes:

** Period of record is from 11/15/1951 to 09/27/2000, only 2000 data are included in the SLERA.
Data obtained from the USGS National Water Information System (NWIS) (http://nwis.waterdata.usgs.gov/wa/nwis/qw).

0.7 u GF 0.7 micron glass fiber filter.

< Actual value is known to be less than the value shown.

E Estimated value.

U Material specifically analyzed for but not detected.

"-" No data.

Table A-5. Dissolved Metals Screening Results for Porewater Collected by USGS throughout the UCR in 2002 and 2004

		Screening	Cox et al. (2005)							Paulson et al. (2006)						
Analyte	Units	SEV [a]	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Aluminum	µg/L	87	11	11	100%	150	2	n/a	n/a	32	32	100%	446	13	n/a	n/a
Antimony	µg/L	no SEV	11	11	100%	2	-	n/a	n/a	32	28	88%	7.3	-	0.3	-
Arsenic	µg/L	150	11	11	100%	26	0	n/a	n/a	32	28	88%	27.4	0	1	0
Barium	µg/L	no SEV	11	11	100%	190	-	n/a	n/a	32	32	100%	193	-	n/a	n/a
Beryllium	µg/L	no SEV	11	0	0%	-	-	0.05	-	32	1	3.1%	0.06	-	0.05	-
Bismuth	µg/L	no SEV	11	0	0%	-	-	0.2	-	32	0	0%	-	-	0.2	-
Cadmium	µg/L	0.19**	11	10	91%	0.68	2	0.02	0	32	11	34%	0.97	6	0.1	0
Calcium	mg/L	no SEV	11	11	100%	44	-	n/a	n/a	32	32	100%	46.2	-	n/a	n/a
Cerium	µg/L	no SEV	11	11	100%	0.59	-	n/a	n/a	32	31	97%	1.07	-	0.05	-
Cesium	µg/L	no SEV	11	11	100%	0.23	-	n/a	n/a	32	27	84%	0.1	-	0.02	-
Chromium	µg/L	53**	11	0	0%	-	-	1.0	0	32	0	0%	-	0	5	0
Cobalt	µg/L	no SEV	11	11	100%	1.1	-	n/a	n/a	32	29	91%	1.54	-	0.1	-
Copper	µg/L	6.4**	11	11	100%	4.2	0	n/a	n/a	32	26	81%	10.2	3	0.5	0
Dysprosium	µg/L	no SEV	0	-	-	-	-	-	-	32	7	22%	0.09	-	0.04	-
Erbium	µg/L	no SEV	0	-	-	-	-	-	-	32	4	13%	0.053	-	0.03	-
Europium	µg/L	no SEV	0	-	-	-	-	-	-	32	3	9%	0.04	-	0.03	-
Gadolinium	µg/L	no SEV	0	-	-	-	-	-	-	32	17	53%	0.1	-	0.03	-
Gallium	µg/L	no SEV	11	6	55%	0.2	-	0.05	-	32	17	53%	0.1	-	0.05	-
Germanium	µg/L	no SEV	0	-	-	-	-	-	-	32	5	16%	0.82	-	0.25	-
Holmium	µg/L	no SEV	0	-	-	-	-	-	-	32	0	0%	-	-	0.03	-
Iron	µg/L	1000	11	11	100%	5600	5	n/a	n/a	32	8	25%	3680	6	250	0
Lanthanum	µg/L	no SEV	11	11	100%	0.44	-	n/a	n/a	32	21	66%	0.6	-	0.1	-
Lead	µg/L	1.6**	11	11	100%	8	5	n/a	n/a	32	32	100%	6.6	14	n/a	n/a
Lithium	µg/L	no SEV	11	11	100%	1.8	-	n/a	n/a	32	7	22%	7.3	-	4.5	-
Lutetium	µg/L	no SEV	0	-	-	-	-	-	-	32	0	0%	-	-	0.5	-
Magnesium	mg/L	no SEV	11	11	100%	15	-	n/a	n/a	32	32	100%	10.4	-	n/a	n/a
Manganese	µg/L	no SEV	11	11	100%	6000	-	n/a	n/a	32	30	94%	6500	-	5	-
Molybdenum	µg/L	no SEV	11	6	55%	3.5	-	2	-	32	13	41%	10.5	-	2	-
Neodymium	µg/L	no SEV	0	-	-	-	-	-	-	32	24	75%	0.55	-	0.05	-
Nickel	µg/L	37**	11	11	100%	3.0	0	n/a	n/a	32	26	81%	6	0	0.4	0
Niobium	µg/L	no SEV	11	0	0%	-	-	0.2	-	32	0	0%	-	-	1	-
Potassium	mg/L	no SEV	11	11	100%	3.2	-	n/a	n/a	32	32	100%	2.15	-	n/a	n/a
Phosphorous	mg/L	no SEV	11	11	100%	0.2	-	n/a	n/a	32	22	69%	1.8	-	0.05	-
Praseodymiur	µg/L	no SEV	0	-	-	-	-	-	-	32	9	28%	0.16	-	0.05	-
Rubidium	µg/L	no SEV	11	11	100%	7.7	-	n/a	n/a	32	32	100%	4.47	-	n/a	n/a
Samarium	µg/L	no SEV	0	-	-	-	-	-	-	32	2	6%	0.19	-	0.09	-
Scandium	µg/L	no SEV	11	11	100%	9.4	-	n/a	n/a	32	6	19%	4.5	-	3	-
Selenium	µg/L	5	0	-	-	-	-	-	-	32	0	0%	-	-	5	32
Silica	mg/L	no SEV	0	-	-	-	-	-	-	32	32	100%	39.7	-	n/a	n/a

Table A-5. Dissolved Metals Screening Results for Porewater Collected by USGS throughout the UCR in 2002 and 2004

Analyte	Units	Screening SEV [a]	Cox et al. (2005)							Paulson et al. (2006)						
			N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Silver	µg/L	1.6**	11	0	0%	-	-	3.0	5	32	0	0%	-	-	15	32
Sodium	mg/L	no SEV	11	11	100%	4.6	-	n/a	n/a	32	32	100%	2.9	-	n/a	n/a
Strontium	µg/L	no SEV	0	-	-	-	-	-	-	32	32	100%	186	-	n/a	n/a
Sulfate	mg/L	no SEV	11	2	18%	7	-	2	-	32	5	16%	17	-	10	-
Tantalum	µg/L	no SEV	11	2	18%	0.05	-	0.02	-	32	1	3%	0.2	-	0.1	-
Terbium	µg/L	no SEV	0	-	-	-	-	-	-	32	0	0%	-	-	0.1	-
Thallium	µg/L	no SEV	11	4	36%	0.2	-	0.1	-	32	0	0%	-	-	0.2	-
Thorium	µg/L	no SEV	11	0	0%	-	-	0.2	-	32	0	0%	-	-	1	-
Thulium	µg/L	no SEV	0	-	-	-	-	-	-	32	0	0%	-	-	0.045	-
Titanium	µg/L	no SEV	11	10	91%	3.7	-	0.5	-	32	10	31%	9.7	-	2.5	-
Tungsten	µg/L	no SEV	0	-	-	-	-	-	-	32	8	25%	1.3	-	0.5	-
Uranium	µg/L	no SEV	11	11	100%	0.59	-	n/a	n/a	32	11	34%	3.1	-	0.5	-
Vanadium	µg/L	no SEV	11	11	100%	1.9	-	n/a	n/a	32	3	9%	7.4	-	2.5	-
Ytterbium	µg/L	no SEV	0	-	-	-	-	-	-	32	17	53%	0.06	-	0.025	-
Yttrium	µg/L	no SEV	11	11	100%	0.44	-	n/a	n/a	32	31	97%	0.43	-	0.05	-
Zinc	µg/L	74**	11	11	100%	40	0	n/a	n/a	32	29	91%	22.8	0	2.5	0
Zirconium	µg/L	no SEV	0	-	-	-	-	-	-	32	0	0%	-	-	1	-

Data sources: Cox et al. (2005) and Paulson et al. (2006). Raw data presented in Tables A-6 and A-7.

Notes:

Shaded values are greater than or equal to the SEV.

a Screening SEVs for dissolved metals adopted from EPA (2006c) and Ecology (2006c). Comparisons with CCME (2007) SEVs were not conducted because the CCME SEVs are applicable to total metals concentrations rather than dissolved concentrations.

** For hardness dependent screening SEVs, the hardness value used for the screening evaluation was the sample-specific value or, when a sample-specific value was not available, the arithmetic mean of hardness measurements (66.89 ± 4.5 mg/L $CaCO_3$) collected between 2000 and 2006 in conjunction with the Ecology water quality monitoring was used (see Table A-4 for raw data). The value shown in the Screening SEV column represents the SEV adjusted to a hardness of 66.89 $CaCO_3$.

SEV Screening Ecotoxicity Value
N Sample size
DT Number of detected samples
FOD Frequency of detection
Max Msd Maximum measured concentration
#Msd>SEV Number of measured samples greater than SEV
Max DL Maximum detection limit
#DL>SEV Number of detection limits from non-detected samples greater than SEV
n/a Not applicable since all concentrations were detected (FOD = 100%)

Table A-6. Dissolved Concentrations of Metals/Metalloids in Reservoir Water and Porewater Collected by Paulson et al. (2006)

Sample ID	Aluminum ug/L	Antimony ug/L	Arsenic ug/L	Barium ug/L	Beryllium ug/L	Bismuth ug/L	Cadmium ug/L	Calcium mg/L	Cerium ug/L	Cesium ug/L	Chromium ug/L	Cobalt ug/L	Copper ug/L	Dysprosium ug/L	Erbium ug/L	Europium ug/L	Gadolinium ug/L	Gallium ug/L	Germanium ug/L	Holmium ug/L	Iron ug/L	Lanthanum ug/L	Lead ug/L
Reservoir Water																							
LR-1 [a]	18.7	<0.3	<1	30.5	<0.05	<0.2	<0.1	18.5	<0.05	<0.02	<5	<0.1	1.3	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	0.5
LR-4 [a]	17.9	<0.3	<1	26.7	<0.05	<0.2	<0.1	18.2	<0.05	<0.02	<5	<0.1	<0.5	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	<0.25
LR-2 [b]	13.5	<0.3	<1	24.8	<0.05	<0.2	<0.1	18.0	<0.05	<0.02	<5	<0.1	<0.5	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	0.94
LR-3 [b]	15	<0.3	<1	25.4	<0.05	<0.2	<0.1	17.7	<0.05	<0.02	<5	0.37	<0.5	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	2.4
LR-4A [b]	15.2	<0.3	<1	26.2	<0.05	<0.2	<0.1	16.9	<0.05	<0.02	<5	0.11	0.84	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	0.64
LR-6 [b]	12.9	<0.3	<1	33.8	<0.05	<0.2	<0.1	16.7	<0.05	<0.02	<5	<0.1	1	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	0.3
SA-8 [b]	21.5	0.4	2	25.3	<0.05	<0.2	<0.1	17.8	<0.05	<0.02	<5	<0.1	<0.5	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	5.5
LR-5A [c]	11.5	0.46	<1	28.2	<0.05	<0.2	<0.1	17.1	<0.05	<0.02	<5	<0.1	0.51	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	<0.25
LR-7 [c]	10.4	<0.3	<1	34.9	<0.05	<0.2	0.11	17.3	<0.05	<0.02	<5	0.11	0.99	<0.04	0.03	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	<0.25
Porewater																							
LR-1 (B)	174	0.5	2	54.6	<0.05	<0.2	0.37	23.7	0.39	0.05	<5	0.21	3.2	<0.04	<0.025	<0.025	0.03	0.08	<0.25	<0.025	<250	0.2	1.6
LR-1 (ACD)	139	0.6	2	65.1	<0.05	<0.2	0.31	32	0.36	0.03	<5	0.11	1.6	<0.04	<0.025	<0.025	0.03	0.06	<0.25	<0.025	<250	0.2	0.9
LR-2 (B)	39.8	1.1	13.3	60	<0.05	<0.2	<0.1	20.3	0.11	0.06	<5	1.26	8.5	<0.04	<0.025	<0.025	<0.025	0.1	<0.25	<0.025	<250	<0.1	3
LR-2 (C)	40.4	0.5	11.5	57.5	<0.05	<0.2	<0.1	20.2	0.14	0.06	<5	0.68	0.7	<0.04	<0.025	<0.025	0.04	0.1	<0.25	<0.025	<250	0.1	0.8
LR-2 (D)	34	0.7	5.7	53.5	<0.05	<0.2	<0.1	18.3	0.12	0.06	<5	0.67	0.8	<0.04	<0.025	<0.025	<0.025	0.1	<0.25	<0.025	<250	<0.1	0.6
LR-3 (A)	72.9	0.6	3.5	70	<0.05	<0.2	0.21	17	0.22	0.04	<5	0.7	1	<0.04	<0.025	<0.025	0.04	0.08	<0.25	<0.025	<250	0.2	6.6
LR-3 (C)	114	0.5	2	51.6	<0.05	<0.2	0.39	17.5	0.21	<0.02	<5	0.23	1.8	0.06	<0.025	<0.025	0.04	<0.05	<0.25	<0.025	<250	0.3	5.2
LR-3 (D)	100	0.6	<1	57.8	<0.05	<0.2	0.97	18.3	0.26	0.03	<5	0.31	2.9	<0.04	<0.025	<0.025	0.06	0.07	<0.25	<0.025	<250	0.3	2.4
LR-3 (E)	67.4	0.3	<1	43.1	<0.05	<0.2	0.56	16.3	0.14	0.03	<5	0.12	1.9	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	0.1	1
LR-4 (DF)	167	0.4	2	50.4	<0.05	<0.2	<0.1	29.6	0.39	<0.02	<5	<0.1	1.1	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	0.3	0.8
LR-4 (I)	206	0.4	2	44.3	<0.05	<0.2	<0.1	25.1	0.48	0.03	<5	<0.1	1.4	<0.04	<0.025	<0.025	0.08	<0.05	<0.25	<0.025	<250	0.3	1
LR-4 (BE)	210	0.7	3.2	57.2	<0.05	<0.2	0.18	27.3	0.83	0.03	<5	0.18	1.9	0.08	0.053	<0.025	0.1	<0.05	<0.25	<0.025	<250	0.5	1.5
LR-4 (G)	196	0.7	2	55.3	<0.05	<0.2	0.2	25	0.63	0.03	<5	0.17	2.1	0.09	0.03	<0.025	0.06	0.08	<0.25	<0.025	<250	0.4	1.4
LR-4 (CH)	164	0.3	2	46.8	<0.05	<0.2	0.14	25.4	0.64	<0.02	<5	1.54	1.6	0.06	<0.025	<0.025	0.09	0.06	<0.25	<0.025	<250	0.4	1.2
LR-4A (PW)	51.3	0.4	6.2	74	<0.05	<0.2	<0.1	17.8	0.38	0.07	<5	0.84	<0.5	<0.04	<0.025	<0.025	0.07	0.09	<0.25	<0.025	266	0.3	1.9
LR-5 (A)	18.3	2.9	5.7	193	<0.05	<0.2	<0.1	46.2	<0.05	0.05	<5	0.25	1	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	4.4
LR-5 (B)	20.7	0.5	3.2	138	<0.05	<0.2	0.13	36.5	0.08	0.04	<5	0.55	0.5	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	<250	<0.1	2
LR-5 (C)	32.3	0.6	8.4	129	<0.05	<0.2	<0.1	46.2	0.14	0.07	<5	0.59	1.1	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	750	0.1	3.2
LR-5 (D)	17.4	0.3	7.3	141	<0.05	<0.2	<0.1	36.6	0.08	0.07	<5	0.68	0.6	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	3,680	<0.1	4.8
LR-5 (E)	14.6	0.5	12.2	126	<0.05	<0.2	0.11	46.2	0.09	0.08	<5	1.01	<0.5	<0.04	<0.025	<0.025	<0.025	<0.05	<0.25	<0.025	1,360	<0.1	1.2
LR-5A (PW)	21.9	<0.3	7.6	77.7	<0.05	<0.2	<0.1	29.4	0.19	0.07	<5	0.55	<0.5	<0.04	<0.025	<0.025	0.03	<0.05	<0.25	<0.025	3,020	0.1	2.4
LR-6 (A)	22	1.9	3	78	<0.05	<0.2	<0.1	19.2	0.07	0.06	<5	0.45	0.9	<0.04	<0.025	<0.025	<0.025	<0.05	0.45	<0.025	<250	<0.1	2.6
LR-6 (B)	28.2	2.5	4	104	<0.05	<0.2	<0.1	25.4	0.15	0.1	<5	0.62	1.9	<0.04	<0.025	0.03	<0.025	<0.05	0.64	<0.025	<250	<0.1	5.3
LR-6 (C)	31.3	3.1	4.2	117	<0.05	<0.2	<0.1	26.4	0.15	0.1	<5	0.51	3.4	<0.04	<0.025	0.04	<0.025	0.06	0.82	<0.025	<250	<0.1	4.9
LR-6 (D)	19	1.4	3.3	96.4	<0.05	<0.2	<0.1	26.2	0.07	0.08	<5	0.48	1.4	<0.04	<0.025	<0.025	<0.025	<0.05	0.42	<0.025	<250	<0.1	3.2
LR-6 (E)	26.9	3	3.3	103	<0.05	<0.2	<0.1	23.3	0.14	0.08	<5	1.09	3	<0.04	<0.025	<0.025	<0.025	<0.05	0.54	<0.025	<250	0.1	5.8
LR-7 (CEDF)	54.3	7.3	<1	43.6	0.06	<0.2	<0.1	20.5	0.12	0.04	<5	0.18	8.1	<0.04	<0.025	<0.025	<0.025	0.1	<0.25	<0.025	<250	<0.1	2.7
LR-7 (AB)	47.2	4.4	<1	44	<0.05	<0.2	<0.1	20.8	0.24	<0.02	<5	<0.1	10.2	<0.04	<0.025	<0.025	0.03	0.09	<0.25	<0.025	<250	0.2	2.6
SA-8 (A)	95.8	<0.3	22.5	27.2	<0.05	<0.2	<0.1	27.2	0.33	<0.02	<5	0.63	<0.5	0.06	<0.025	<0.025	0.04	0.06	<0.25	<0.025	2,150	0.2	0.3
SA-8 (B)	130	0.3	17.8	38.8	<0.05	<0.2	<0.1	22.8	0.4	0.03	<5	0.8	<0.5	0.05	<0.025	<0.025	0.06	0.08	<0.25	<0.025	<250	0.2	0.4
SA-8 (C)	240	<0.3	27.4	26.4	<0.05	<0.2	<0.1	25.4	0.63	0.03	<5	0.63	<0.5	<0.04	0.03	<0.025	0.09	0.08	<0.25	<0.025	1,430	0.3	0.7
SA-8 (D)	446	<0.3	19.1	31.3	<0.05	<0.2	<0.1	22.9	1.07	0.04	<5	0.62	0.6	0.09	0.051	0.03	0.07	0.1	<0.25	<0.025	1,040	0.6	1

Table A-6. Dissolved Concentrations of Metals/Metalloids in Reservoir Water and Porewater Collected by Paulson et al. (2006)

Sample ID	Lithium ug/L	Lutetium ug/L	Magnesium mg/L	Manganese ug/L	Molybdenum ug/L	Neodymium ug/L	Nickel ug/L	Niobium ug/L	Phosphorous mg/L	Potassium mg/L	Praseodymium ug/L	Rubidium ug/L	Samarium ug/L	Scandium ug/L	Selenium ug/L	Silica mg/L	Silver ug/L	Sodium mg/L	Strontium ug/L	Sulfate mg/L
Reservoir Water																				
LR-1 [a]	5	<0.5	4.3	17.8	<2	<0.05	-	<1	<0.05	0.92	<0.05	0.82	<0.09	<3	<5	3.5	<15	1.75	98	25
LR-4 [a]	<4.5	<0.5	4.26	13.5	<2	<0.05	<0.4	<1	<0.05	0.73	<0.05	0.89	<0.09	<3	<5	3.2	<15	1.77	93	<10
LR-2 [b]	<4.5	<0.5	4.38	<5	<2	<0.05	<0.4	<1	<0.05	0.72	<0.05	0.89	<0.09	<3	<5	3	<15	1.75	98	<10
LR-3 [b]	<4.5	<0.5	4.36	<5	<2	<0.05	<0.4	<1	<0.05	0.72	<0.05	0.89	<0.09	<3	<5	2.9	<15	1.74	94	<10
LR-4A [b]	<4.5	<0.5	4.01	<5	<2	<0.05	0.6	<1	<0.05	0.83	<0.05	0.95	<0.09	<3	<5	2.5	<15	1.59	87	31
LR-6 [b]	<4.5	<0.5	4.13	<5	<2	<0.05	<0.4	<1	<0.05	0.82	<0.05	0.82	<0.09	<3	<5	3.1	<15	1.89	75	31
SA-8 [b]	<4.5	<0.5	4.34	13.1	<2	<0.05	<0.4	<1	<0.05	0.84	<0.05	0.8	<0.09	<3	<5	4.9	<15	2.2	100	14
LR-5A [c]	<4.5	<0.5	4.12	<5	<2	<0.05	<0.4	<1	<0.05	0.8	<0.05	0.86	<0.09	<3	<5	2.9	<15	1.64	83	33
LR-7 [c]	<4.5	<0.5	4.25	<5	<2	<0.05	< 0.4	<1	<0.05	0.76	<0.05	0.8	<0.09	<3	<5	3.3	<15	1.87	75	25
Porewater																				
LR-1 (B)	<4.5	<0.5	5.17	11.6	<2	0.18	6	<1	0.09	1.61	<0.05	2.76	<0.09	<3	<5	15.4	<15	2.85	114	17
LR-1 (ACD)	<4.5	<0.5	5.66	16.6	<2	0.2	2.9	<1	0.1	1.44	0.06	2.08	<0.09	<3	<5	10.6	<15	2.29	130	12
LR-2 (B)	<4.5	<0.5	4.84	4,080	2.7	<0.05	1.7	<1	0.2	1.51	<0.05	2.88	<0.09	3.5	<5	34.4	<15	2.05	106	<10
LR-2 (C)	<4.5	<0.5	4.94	6,500	3.7	<0.05	1.3	<1	0.3	1.58	<0.05	3.12	<0.09	4.5	<5	39.7	<15	2.03	111	<10
LR-2 (D)	<4.5	<0.5	4.34	5,580	2.8	<0.05	0.9	<1	0.1	1.41	<0.05	2.84	<0.09	<3	<5	31.4	<15	1.99	102	<10
LR-3 (A)	<4.5	<0.5	4.16	3,410	<2	0.16	0.9	<1	0.06	1.1	<0.05	2.4	<0.09	<3	<5	28.3	<15	1.79	92	<10
LR-3 (C)	<4.5	<0.5	4.38	473	<2	0.24	6	<1	<0.05	1.06	<0.05	1.6	<0.09	<3	<5	23	<15	1.9	90.9	<10
LR-3 (D)	<4.5	<0.5	4.39	1,270	<2	0.21	1	<1	<0.05	1.18	<0.05	2.32	<0.09	<3	<5	23.9	<15	1.98	97.3	<10
LR-3 (E)	<4.5	<0.5	3.89	428	<2	0.08	0.7	<1	<0.05	1.04	<0.05	1.7	<0.09	<3	<5	23.6	<15	1.81	90	<10
LR-4 (DF)	<4.5	<0.5	5.43	20.7	<2	0.16	0.5	<1	0.09	1.14	0.06	1.58	<0.09	<3	<5	19.3	<15	2	142	<10
LR-4 (I)	5	<0.5	5.05	6.8	<2	0.24	<0.4	<1	0.07	1.05	0.08	1.31	<0.09	<3	<5	17.9	<15	1.9	118	<10
LR-4 (BE)	<4.5	<0.5	4.99	280	<2	0.44	0.8	<1	0.1	1.35	0.11	2.25	0.1	<3	<5	23.1	<15	2.09	129	<10
LR-4 (G)	<4.5	<0.5	4.73	102	<2	0.37	0.6	<1	0.07	1.18	0.1	2.24	<0.09	<3	<5	21.7	<15	1.96	122	<10
LR-4 (CH)	<4.5	<0.5	4.68	197	<2	0.26	0.5	<1	0.1	1.1	0.09	1.69	<0.09	<3	<5	19.2	<15	1.87	121	<10
LR-4A (PW)	<4.5	<0.5	4.02	3,240	<2	0.23	0.6	<1	0.09	1.23	0.06	2.4	<0.09	3.1	<5	34.6	<15	1.97	98.6	<10
LR-5 (A)	<4.5	<0.5	5.42	506	10.5	<0.05	<0.4	<1	<0.05	2.15	<0.05	4.47	<0.09	<3	<5	27.2	<15	2.38	150	<10
LR-5 (B)	5.2	<0.5	8.05	922	2.6	<0.05	1.2	<1	<0.05	1.6	<0.05	3	<0.09	<3	<5	24.2	<15	2.48	156	12
LR-5 (C)	<4.5	<0.5	9.72	958	2.9	0.11	0.9	<1	<0.05	1.68	<0.05	3.69	<0.09	<3	<5	31.8	<15	2.55	176	15
LR-5 (D)	5.4	<0.5	8.34	1,160	2.4	0.06	1	<1	0.09	1.72	<0.05	3.63	<0.09	<3	<5	34.5	<15	2.42	149	<10
LR-5 (E)	<4.5	<0.5	10.4	1,360	5.3	0.12	1.4	<1	0.1	1.74	<0.05	4.29	<0.09	3.1	<5	33.4	<15	2.33	186	<10
LR-5A (PW)	<4.5	<0.5	7.29	1,210	<2	0.09	0.5	<1	0.3	1.29	<0.05	2.54	<0.09	3.3	<5	35.8	<15	2.45	144	<10
LR-6 (A)	<4.5	<0.5	3.74	396	<2	<0.05	<0.4	<1	<0.05	1.25	<0.05	2.05	<0.09	<3	<5	18	<15	2.02	91	<10
LR-6 (B)	<4.5	<0.5	4.3	407	2.8	0.1	0.7	<1	<0.05	1.74	<0.05	3.21	<0.09	<3	<5	25.1	<15	2.23	117	<10
LR-6 (C)	5.2	<0.5	4.61	423	3	<0.05	<0.4	<1	0.06	2	<0.05	3.62	<0.09	<3	<5	21.7	<15	2.3	118	<10
LR-6 (D)	5.2	<0.5	4.76	538	5.2	<0.05	<0.4	<1	<0.05	1.82	<0.05	3.23	<0.09	<3	<5	21.3	<15	2.28	120	<10
LR-6 (E)	<4.5	<0.5	4.38	353	2.4	0.08	0.5	<1	0.06	1.74	<0.05	2.74	<0.09	<3	<5	20.2	<15	2.26	117	<10
LR-7 (CEDF)	<4.5	<0.5	4.35	<5	<2	0.06	5.5	<1	0.06	1.05	<0.05	1.4	<0.09	<3	<5	5.4	<15	2.39	101	11
LR-7 (AB)	<4.5	<0.5	4.49	<5	<2	0.09	<0.4	<1	<0.05	1.04	<0.05	1.25	<0.09	<3	<5	4.6	<15	2.17	97	<10
SA-8 (A)	7.3	<0.5	6.36	910	<2	0.16	0.8	<1	1.5	1.54	<0.05	1.53	<0.09	<3	<5	34.5	<15	2.9	148	<10
SA-8 (B)	4.8	<0.5	5.54	2,200	2.7	0.27	2.4	<1	0.3	1.34	<0.05	1.93	<0.09	<3	<5	32.6	<15	2.26	119	<10
SA-8 (C)	<4.5	<0.5	5.95	1,010	<2	0.37	2.8	<1	1.8	1.47	0.09	1.9	<0.09	3.2	<5	34.3	<15	2.64	131	<10
SA-8 (D)	<4.5	<0.5	5.47	803	<2	0.55	0.8	<1	1	1.4	0.16	1.72	0.19	<3	<5	32.2	<15	2.66	120	<10

Table A-6. Dissolved Concentrations of Metals/Metalloids in Reservoir Water and Porewater Collected by Paulson et al. (2006)

Sample ID	Tantalum ug/L	Terbium ug/L	Thallium ug/L	Thorium ug/L	Thulium ug/L	Titanium ug/L	Tungsten ug/L	Uranium ug/L	Vanadium ug/L	Ytterbium ug/L	Yttrium ug/L	Zinc ug/L	Zirconium ug/L
Reservoir Water													
LR-1 [a]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	<2.5	<1
LR-4 [a]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	<2.5	<1
LR-2 [b]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	2.8	<1
LR-3 [b]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	<2.5	<1
LR-4A [b]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	3.6	<1
LR-6 [b]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	<2.5	<1
SA-8 [b]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	0.57	<2.5	<0.025	<0.05	3.6	<1
LR-5A [c]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	<2.5	<1
LR-7 [c]	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	<2.5	<1
Porewater													
LR-1 (B)	0.2	<0.1	<0.2	<1	<0.045	4.2	<0.5	<0.5	2.7	<0.025	0.21	16.8	<1
LR-1 (ACD)	<0.1	<0.1	<0.2	<1	<0.045	3.4	<0.5	0.6	<2.5	0.03	0.21	11	<1
LR-2 (B)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	1.3	<0.5	<2.5	<0.025	0.12	6.1	<1
LR-2 (C)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	0.6	0.5	<2.5	0.05	0.13	6.8	<1
LR-2 (D)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	0.04	0.1	7.5	<1
LR-3 (A)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	0.03	0.2	8.9	<1
LR-3 (C)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	0.23	13.4	<1
LR-3 (D)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	0.03	0.24	15.3	<1
LR-3 (E)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	0.14	13.3	<1
LR-4 (DF)	<0.1	<0.1	<0.2	<1	<0.045	2.9	<0.5	0.9	<2.5	0.04	0.2	<2.5	<1
LR-4 (I)	<0.1	<0.1	<0.2	<1	<0.045	5.4	<0.5	0.6	<2.5	0.06	0.26	2.8	<1
LR-4 (BE)	<0.1	<0.1	<0.2	<1	<0.045	4.3	<0.5	0.6	7.4	0.05	0.33	<2.5	<1
LR-4 (G)	<0.1	<0.1	<0.2	<1	<0.045	3.4	<0.5	<0.5	3.7	0.05	0.27	3.2	<1
LR-4 (CH)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	0.04	0.28	2.7	<1
LR-4A (PW)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	0.05	0.19	4.7	<1
LR-5 (A)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	3.1	<2.5	<0.025	0.07	4.4	<1
LR-5 (B)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	0.9	<2.5	<0.025	0.09	16.6	<1
LR-5 (C)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	1.4	<2.5	0.03	0.17	14.8	<1
LR-5 (D)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	0.6	<2.5	<0.025	0.14	10.6	<1
LR-5 (E)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	0.5	1.6	<2.5	0.04	0.2	7	<1
LR-5A (PW)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	0.6	<0.5	<2.5	0.03	0.16	3.3	<1
LR-6 (A)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	<0.05	7.3	<1
LR-6 (B)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	0.5	<0.5	<2.5	0.03	0.1	21.3	<1
LR-6 (C)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	1.1	<0.5	<2.5	<0.025	0.1	16	<1
LR-6 (D)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	0.6	<0.5	<2.5	<0.025	0.06	12.5	<1
LR-6 (E)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	0.8	<0.5	<2.5	<0.025	0.09	11.6	<1
LR-7 (CEDF)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	0.08	14.8	<1
LR-7 (AB)	<0.1	<0.1	<0.2	<1	<0.045	<2.5	<0.5	<0.5	<2.5	<0.025	0.07	22.8	<1
SA-8 (A)	<0.1	<0.1	<0.2	<1	<0.045	3.1	<0.5	<0.5	<2.5	<0.025	0.17	<2.5	<1
SA-8 (B)	<0.1	<0.1	<0.2	<1	<0.045	6.1	<0.5	0.5	<2.5	<0.025	0.19	3.1	<1
SA-8 (C)	<0.1	<0.1	<0.2	<1	<0.045	6	<0.5	<0.5	<2.5	0.03	0.3	5.5	<1
SA-8 (D)	<0.1	<0.1	<0.2	<1	<0.045	9.7	<0.5	<0.5	<2.5	0.05	0.43	4.4	<1

Notes:

< Non-detected value, detection limit shown

[a] Sample collected from the draining of box corer.

[b] Sample collected from water overlying sediment in sealed box corer.

[c] Sample collected from the surface over the side of the sampling vessel.

"-" No data.

Table A-7. Dissolved Concentrations of Metals/Metalloids in Porewater Collected by Cox et al. (2005)

Sample ID	Depth interval (cm)	Units	Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Calcium [a]	Cerium	Cesium	Chromium	Cobalt	Copper	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Niobium
CCR-668	0-1	µg/L	70	0.85	15	96	<0.05	<0.2	0.08	22	0.23	0.13	<1	1.1	1.6	0.2	180	0.15	1.4	1.6	5	6,000	3.5	2.5	<0.2
CCR-668	1-2	µg/L	63	0.67	24	91	<0.05	<0.2	0.04	22	0.24	0.15	<1	0.82	1.3	0.2	1,300	0.16	2	1.6	4.8	4,100	2.6	2	<0.2
CCR-668	9-11	µg/L	50	1	20	140	<0.05	<0.2	0.03	31	0.19	0.23	<1	0.7	1.1	0.1	1,400	0.22	2	1.5	6	4,300	1.9	2.1	<0.2
CCR-668	9-11	µg/L	28	0.68	24	140	<0.05	<0.2	0.03	30	0.15	0.2	<1	0.61	1	0.1	5,600	0.16	1.4	1.8	6.3	4,200	2.3	2	<0.2
CCR-668	18-20	µg/L	18	0.5	11	190	<0.05	<0.2	<0.02	44	0.08	0.22	<1	0.52	1.8	0.08	3,400	0.08	1.3	1.8	8.6	4,100	2	2.4	<0.2
CCR-692	0-1	µg/L	150	0.61	26	87	<0.05	<0.2	0.26	31	0.59	0.15	<1	1	4.2	0.07	3,000	0.42	6.5	1.4	9	2,100	<2.0	3	<0.2
CCR-692	1-2	µg/L	60	1.1	16	110	<0.05	<0.2	0.08	33	0.21	0.16	<1	0.45	1.9	<0.05	160	0.16	3	1.5	11	750	<2.0	1.8	<0.2
CCR-692	9-11	µg/L	45	2	15	180	<0.05	<0.2	0.06	38	0.2	0.15	<1	0.21	2.1	<0.05	990	0.17	3.8	1.2	15	260	<2.0	2	<0.2
CCR-705	0-1	µg/L	58	1.2	4.1	64	<0.05	<0.2	0.68	19	0.23	0.06	<1	0.62	3.8	<0.05	120	0.2	2.9	1.6	5.1	1,200	<2.0	1.9	<0.2
CCR-705	1-2	µg/L	100	1	6	68	<0.05	<0.2	0.25	19	0.44	0.06	<1	0.54	2.7	<0.05	250	0.44	8	1.8	5.2	890	<2.0	1.6	<0.2
CCR-705	9-11	µg/L	43	1.4	18	80	<0.05	<0.2	0.07	20	0.17	0.04	<1	0.39	1	<0.05	410	0.25	4.6	1.8	5.9	690	2.8	1.3	<0.2

Table A-7. Dissolved Concentrations of Metals/Metalloids in Porewater Collected by Cox et al. (2005)

Sample ID	Depth interval (cm)	Phosphorus	Potassium	Rubidium	Scandium	Sodium	Silver	Sulfate	Tantalum	Thallium	Thorium	Titanium	Uranium	Vanadium	Yttrium	Zinc
CCR-668	0-1	0.1	1.6	5	5.9	3.4	<3	3	<0.02	<0.1	<0.2	1.2	0.33	1.3	0.19	6.6
CCR-668	1-2	0.1	1.7	5	6.6	2.4	<3	<2	<0.02	<0.1	<0.2	1	0.26	1.9	0.22	3.8
CCR-668	9-11	0.02	2.3	6.7	7.5	3.3	<3	<2	<0.02	0.2	<0.2	0.5	0.35	1.1	0.44	26
CCR-668	9-11	0.04	2.1	6.1	9.4	3.4	<3	<2	0.05	0.1	<0.2	0.9	0.3	1.4	0.39	3.4
CCR-668	18-20	0.01	2.9	7.7	9	4.6	<3	<2	0.05	<0.1	<0.2	0.8	0.33	0.6	0.26	40
CCR-692	0-1	0.2	1.9	4.7	6.8	3.3	<3	<2	<0.02	<0.1	<0.2	3.7	0.59	1.2	0.41	13
CCR-692	1-2	0.04	2.3	4.8	7.4	3.2	<3	<2	<0.02	<0.1	<0.2	1.3	0.5	1.1	0.2	3.7
CCR-692	9-11	0.2	3.2	3.8	8	3.5	<3	<2	<0.02	<0.1	<0.2	1.4	0.54	1.6	0.35	4.2
CCR-705	0-1	0.05	1.1	3.7	4.6	2.2	<3	7	<0.02	0.1	<0.2	1.2	0.16	0.7	0.2	12
CCR-705	1-2	0.07	1.2	3.6	5.1	2.2	<3	<2	<0.02	0.1	<0.2	1.7	0.17	1	0.42	10
CCR-705	9-11	0.09	1.3	2.3	5.7	2.7	<3	<2	<0.02	<0.1	<0.2	<0.50	0.22	1	0.3	4.9

Notes:

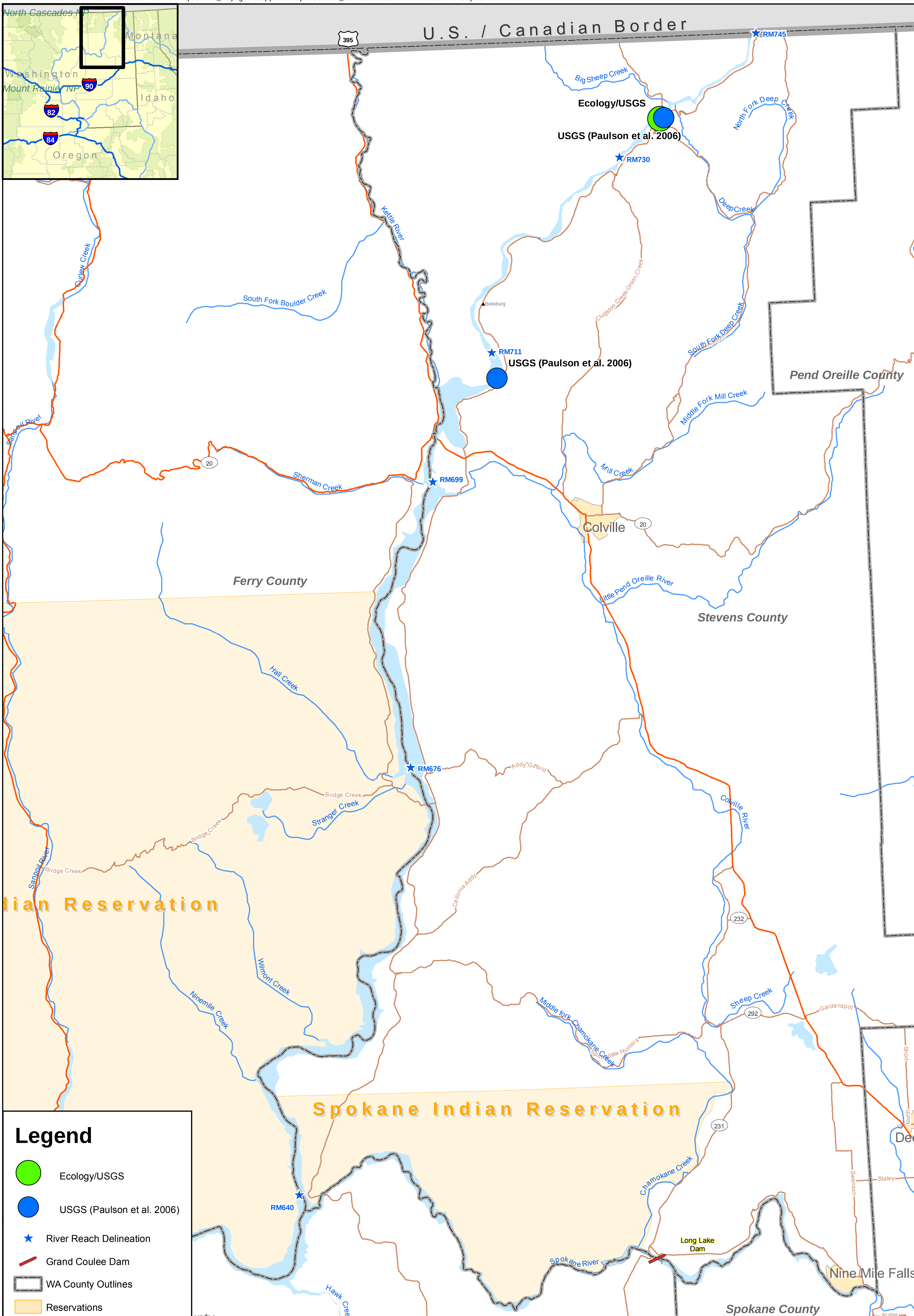
[a] Calcium porewater analysis in units of mg/L.

< Non-detected value, detection limit shown.

"-" No data.

MAPS

P:\Clients\4662-Teck Cominco\598-4662-002 (UCR RI_FS)\gis\support\mapdocs\UCR_surfacewater.mxd Date: 10 September 2007



Parametrix **Integral**

N

Km: 0 5 10

Miles: 0 2.5 5

Map A-1

Surface Water Sampling Locations

Upper Columbia River, WA

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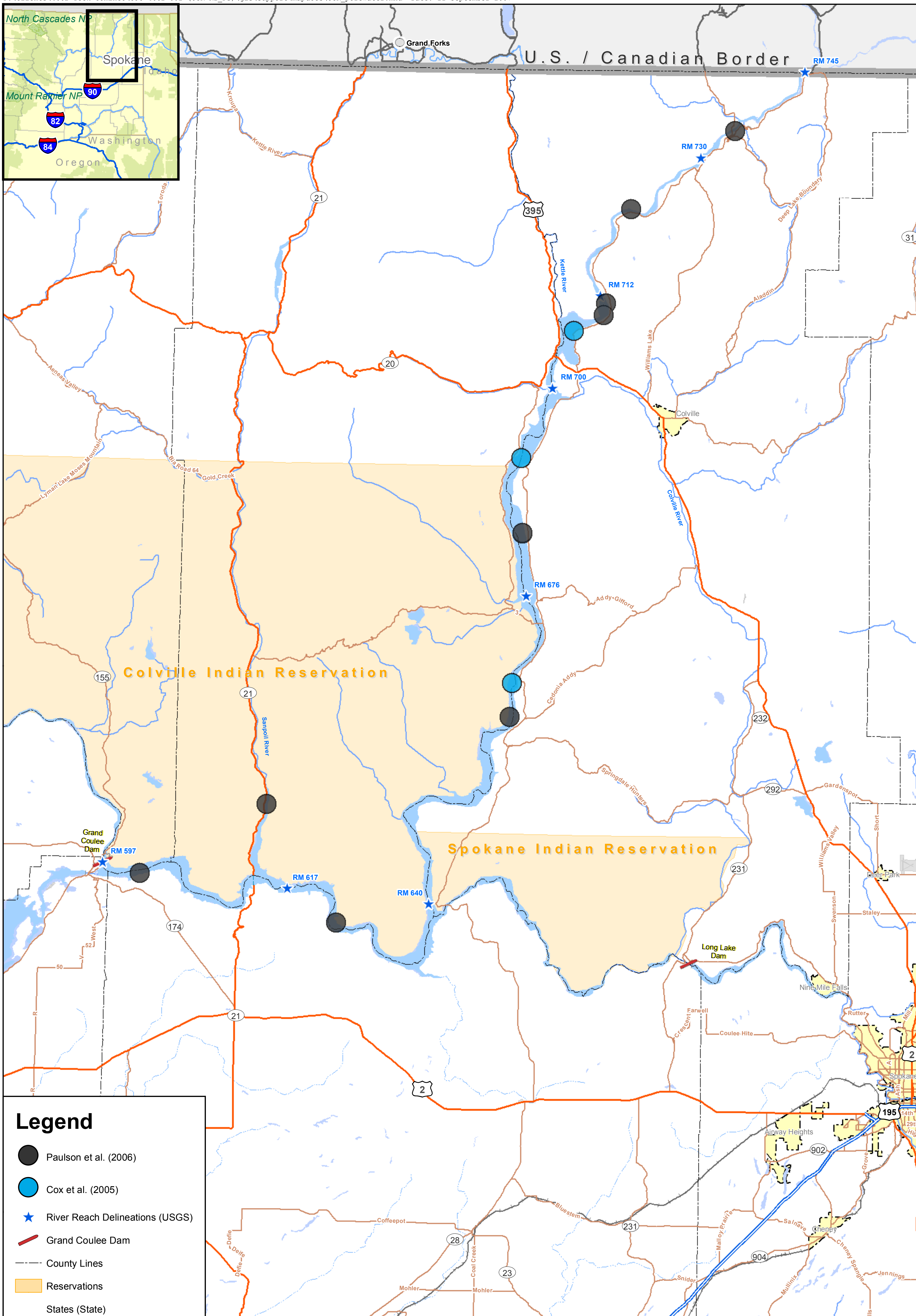

Parametrix Integral

Km 0 5 10

Miles 0 2.5 5

N

Map A-2 . Porewater Sampling Locations

Upper Columbia River, WA

APPENDIX B

SEDIMENT DATA TABLES AND LOCATION MAPS

APPENDIX B

Sediment Data Tables and Location Maps

APPENDIX B

LIST OF TABLES

APPENDIX B

LIST OF MAPS

TABLES

Table B-1. Screening Results for Sediments Collected by EPA throughout the UCR in 2005

	Screening		Beach Surface Samples							Core Samples							Transect Surface Samples						
Analyte	SEV	Units	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Metals/Metalloids																							
Aluminum	no SEV	mg/kg	66	66	100%	23100	-	n/a	n/a	44	44	100%	23000	-	n/a	n/a	236	236	100%	34000	-	n/a	n/a
Antimony	0.4	mg/kg	57	35	61%	53.2	35	8.1	17	28	13	46%	42.5	13	15.1	15	127	86	68%	62.5	86	18.6	38
Arsenic	9.79	mg/kg	66	64	97%	35.7	14	3.9	0	44	40	91%	17.8	11	1.9	0	236	224	95%	74.4	71	4.5	0
Barium	no SEV	mg/kg	66	66	100%	2250	-	n/a	n/a	44	44	100%	1610	-	n/a	n/a	236	236	100%	2280	-	n/a	n/a
Beryllium	0.46	mg/kg	66	66	100%	1.7	48	n/a	n/a	44	44	100%	1.9	44	n/a	n/a	236	236	100%	2.7	216	n/a	n/a
Cadmium	0.99	mg/kg	66	57	86%	7.8	26	0.52	0	44	39	89%	17.9	23	0.52	0	236	207	88%	16.2	124	0.62	0
Calcium	no SEV	mg/kg	66	66	100%	80300	-	n/a	n/a	44	44	100%	68700	-	n/a	n/a	236	236	100%	76500	-	n/a	n/a
Chromium	43.4	mg/kg	66	66	100%	145	10	n/a	n/a	44	44	100%	109	6	n/a	n/a	236	236	100%	156	43	n/a	n/a
Cobalt	no SEV	mg/kg	66	66	100%	57.3	-	n/a	n/a	44	44	100%	41.6	-	n/a	n/a	236	236	100%	75	-	n/a	n/a
Copper	31.6	mg/kg	66	66	100%	3290	21	n/a	n/a	44	44	100%	2240	28	n/a	n/a	236	231	98%	3030	133	8.7	0
Iron	no SEV	mg/kg	66	66	100%	254000	-	n/a	n/a	44	44	100%	266000	-	n/a	n/a	236	236	100%	248000	-	n/a	n/a
Lead	35.8	mg/kg	66	66	100%	535	27	n/a	n/a	44	44	100%	1230	29	n/a	n/a	236	236	100%	2760	142	n/a	n/a
Magnesium	no SEV	mg/kg	66	66	100%	16400	-	n/a	n/a	44	44	100%	23100	-	n/a	n/a	236	236	100%	23000	-	n/a	n/a
Manganese	no SEV	mg/kg	66	66	100%	4780	-	n/a	n/a	44	44	100%	4690	-	n/a	n/a	236	236	100%	4920	-	n/a	n/a
Mercury	0.18	mg/kg	66	45	68%	0.81	9	0.11	0	44	37	84%	3.2	17	0.014	0	232	193	83%	2.4	89	0.14	0
Nickel	22.7	mg/kg	66	66	100%	29.9	2	n/a	n/a	44	44	100%	32.8	14	n/a	n/a	236	236	100%	52.8	65	n/a	n/a
Potassium	no SEV	mg/kg	66	66	100%	4730	-	n/a	n/a	44	44	100%	4660	-	n/a	n/a	236	236	100%	5260	-	n/a	n/a
Selenium	no SEV	mg/kg	19	5	26%	4.3	-	3.9	-	44	34	77%	9.5	-	3.5	-	145	91	63%	23.4	-	10.2	-
Silver	0.545	mg/kg	66	0	0%	-	-	1.5	66	33	0	0%	-	-	2.6	33	210	7	3%	11.6	7	4.2	202
Sodium	no SEV	mg/kg	66	58	88%	2780	-	124	-	44	42	95%	2270	-	260	-	236	222	94%	2840	-	251	-
Thallium	no SEV	mg/kg	66	3	5%	1.3	-	3.8	-	44	1	2%	0.69	-	6.6	-	236	6	3%	1.5	-	10.5	-
Uranium	no SEV	mg/kg	66	19	29%	84.3	-	30.2	-	44	6	14%	89.6	-	52.9	-	236	49	21%	127	-	84.3	-
Vanadium	no SEV	mg/kg	66	66	100%	49.7	-	n/a	n/a	44	44	100%	49.4	-	n/a	n/a	236	236	100%	71.4	-	n/a	n/a
Zinc	121	mg/kg	66	66	100%	22200	35	n/a	n/a	44	44	100%	24800	29	n/a	n/a	236	236	100%	26600	150	n/a	n/a
Dioxins/Furans																							
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	no SEV	ng/kg	48	24	50%	11.4	-	2.03	-	23	17	74%	44.5	-	0.29	-	0	-	-	-	-	-	-
1,2,3,4,6,7,8-Heptachlorodibenzofuran	no SEV	ng/kg	48	25	52%	10.6	-	0.418	-	23	17	74%	12.2	-	0.08	-	0	-	-	-	-	-	-
1,2,3,4,7,8,9-Heptachlorodibenzofuran	no SEV	ng/kg	48	1	2%	0.21	-	0.2	-	23	13	57%	0.56	-	0.17	-	0	-	-	-	-	-	-
1,2,3,4,7,8-Hexachlorodibenzodioxin	no SEV	ng/kg	48	19	40%	0.234	-	0.163	-	23	11	48%	0.66	-	0.16	-	0	-	-	-	-	-	-
1,2,3,4,7,8-Hexachlorodibenzofuran	no SEV	ng/kg	48	6	13%	0.241	-	0.284	-	23	10	43%	0.94	-	0.24	-	0	-	-	-	-	-	-
1,2,3,6,7,8-Hexachlorodibenzodioxin	no SEV	ng/kg	48	23	48%	0.838	-	0.667	-	23	13	57%	2.60	-	0.10	-	0	-	-	-	-	-	-
1,2,3,6,7,8-Hexachlorodibenzofuran	no SEV	ng/kg	48	9	19%	0.189	-	0.203	-	23	6	26%	0.66	-	0.63	-	0	-	-	-	-	-	-
1,2,3,7,8,9-Hexachlorodibenzodioxin	no SEV	ng/kg	48	19	40%	0.598	-	0.514	-	23	13	57%	1.9	-	0.10	-	0	-	-	-	-	-	-
1,2,3,7,8,9-Hexachlorodibenzofuran	no SEV	ng/kg	48	3	6%	0.1	-	0.213	-	23	6	26%	0.34	-	0.23	-	0	-	-	-	-	-	-
1,2,3,7,8-Pentachlorodibenzofuran	no SEV	ng/kg	48	10	21%	0.326	-	0.267	-	23	6	26%	0.72	-	0.29	-	0	-	-	-	-	-	-
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	no SEV	ng/kg	48	13	27%	0.262	-	0.171	-	23	11	48%	0.67	-	0.12	-	0	-	-	-	-	-	-
2,3,4,6,7,8-Hexachlorodibenzofuran	no SEV	ng/kg	48	7	15%	0.079	-	0.241	-	23	15	65%	0.94	-	0.16	-	0	-	-	-	-	-	-
2,3,4,7,8-Pentachlorodibenzofuran	no SEV	ng/kg	48	16	33%	0.605	-	0.189	-	23	10	43%	1.5	-	0.27	-	0	-	-	-	-	-	-
2,3,7,8-Tetrachlorodibenzodioxin	no SEV	ng/kg	48	7	15%	0.28	-	0.11	-	23	11	48%	0.59	-	0.064	-	0	-	-	-	-	-	-
2,3,7,8-Tetrachlorodibenzofuran	no SEV	ng/kg	48	32	67%	23.7	-	0.204	-	23	21	91%	53	-	0.20	-	0	-	-	-	-	-	-
Octachlorodibenzodioxin	no SEV	ng/kg	48	29	60%	87.1	-	7.89	-	23	17	74%	338	-	2.7	-	0	-	-	-	-	-	-
Octachlorodibenzofuran	no SEV	ng/kg	48	28	58%	5.51	-	0.679	-	23	18	78%	21.7	-	0.25	-	0	-	-	-	-	-	-
TCDD TEQ (1/2 DL)	0.85	ng TEQ/kg	48	47	98%	2.21	6	0.119	0	23	23	100%	4.65	9	-	-	0	-	-	-	-	-	-
PAHs																							
2-Methylnaphthalene	469	µg/kg	66	23	35%	30	0	8	0	44	42	95%	11	0	5	0	236	181	77%	5	0	12	0
Acenaphthene	1060	µg/kg	66	7	11%	3	0	9	0	44	1	2%	0.4	0	12	0	236	6	3%	1	0	18	0
Acenaphthylene	470	µg/kg	66	9	14%	9	0	13	0	44	0	0%	-	-	12	0	236	0	0%	-	-	18	0
Anthracene	57.2	µg/kg	66	8	12%	7	0	13	0	44	3	7%	2	0	12	0	236	22	9%	3	0	18	0
Benzo(a)anthracene	108	µg/kg	66	20	30%	12	0	8	0	44	15	34%	6	0	11	0	236	124	53%	12	0	17	0
Benzo(a)pyrene	150	µg/kg	66	17	26%	13	0	8	0	44	14	32%	7	0	12	0	236	69	29%	11	0	18	0
Benzo(b)fluoranthene	11000	µg/kg	66	16	24%	9	0	8	0	44	1	2%	3	0	12	0	236	66	28%	14	0	18	0
Benzo(ghi)perylene	4020	µg/kg	66	22	33%	9	0	8	0	44	13	30%	5	0	9	0	236	81	34%	6	0	18	0
Benzo(k)fluoranthene	11000	µg/kg	66	9	14%	7	0	13	0	44	1	2%	2	0	12	0	236	66	28%	10	0	18	0
Chrysene	166	µg/kg	66	37	56%	17	0	8	0	44	21	48%	12	0	11	0	236	151	64%	20	0	16	0
Dibenzo(a,h)anthracene	33	µg/kg	66	12	18%	3	0	8	0	44	3	7%	2	0	12	0	236	36	15%	3	0	18	0
Fluoranthene	423	µg/kg	66	32	48%	36	0	13	0	44	21	48%	15	0	6	0	236	152	64%	27	0	14	0
Fluorene	77.4	µg/kg	66	9	14%	3	0	8	0	44	0	0%	-	-	12	0	236	16	7%	2	0	18	0
Indeno[1,2,3-cd]pyrene	4120	µg/kg	66	17	26%	11	0	8	0	44	11	25%	3	0	9	0	236	81	34%	10	0	16	0
Naphthalene	176	µg/kg	66	10	15%	42.5	0	8.6	0	44	30	68%	10	0	4.7	0	236	112	47%	7	0	9	0
Phenanthrene	204	µg/kg	66	29	44%	40.5	0	8	0	44	25	57%	19	0	6	0	236	157	67%	21.5	0	14	0
Pyrene	195	µg/kg	66	32	48%	36	0	8	0	44	17	39%	8	0	11	0	236	146	62%	22	0	16	0
Total PAHs (1/2 DL)	1610	µg/kg	66	42	64%	175.55	0	7.5	0	44	37	84%	97.5	0	6	0	236	196	83%	118.35	0	9	0

Table B-1. Screening Results for Sediments Collected by EPA throughout the UCR in 2005

	Screening		Beach Surface Samples							Core Samples							Transect Surface Samples						
Analyte	SEV	Units	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
PCBs																							
Aroclor 1016	no SEV	µg/kg	66	0	0%	-	-	6.3	-	43	0	0%	-	-	4.4	-	236	1	0.4%	25	-	3.9	-
Aroclor 1221	no SEV	µg/kg	66	0	0%	-	-	25	-	43	0	0%	-	-	18	-	236	0	0%	-	-	16	-
Aroclor 1232	no SEV	µg/kg	66	0	0%	-	-	25	-	43	0	0%	-	-	18	-	236	0	0%	-	-	16	-
Aroclor 1242	no SEV	µg/kg	66	0	0%	-	-	6.3	-	43	0	0%	-	-	4.4	-	236	0	0%	-	-	3.9	-
Aroclor 1248	no SEV	µg/kg	66	0	0%	-	-	6.3	-	43	0	0%	-	-	4.4	-	236	0	0%	-	-	3.9	-
Aroclor 1254	230	µg/kg	66	0	0%	-	-	6.3	0	43	0	0%	-	-	4.4	0	236	0	0%	-	-	3.9	0
Aroclor 1260	138	µg/kg	66	0	0%	-	-	6.3	0	43	0	0%	-	-	4.4	0	236	1	0.4%	9.4	0	3.9	0
Total PCBs (1/2 DL)	59.8	µg/kg	66	0	0%	-	-	12.5	0	43	0	0%	-	-	9	0	236	1	0.4%	41.2	0	8	0
Pesticides																							
2,4'-DDD	no SEV	µg/kg	66	0	0%	-	-	5.1	-	44	0	0%	-	-	1.9	-	236	0	0%	-	-	2.8	-
4,4'-DDD	96	µg/kg	66	1	2%	2.1	0	1.3	0	44	0	0%	-	-	1.9	0	236	2	1%	2.1	0	2.8	0
Total DDD (1/2 DL)	4.88	µg/kg	66	1	2%	4.65	0	0.55	0	44	0	0%	-	-	0.95	0	236	2	1%	3	0	0.8	0
2,4'-DDE	no SEV	µg/kg	66	4	6%	17	-	1.3	-	44	1	2%	0.32	-	1.9	-	236	4	2%	0.48	-	2.8	-
4,4'-DDE	21	µg/kg	66	8	12%	63	1	1.3	0	44	4	9%	0.81	0	1.9	0	236	23	10%	5.2	0	2.8	0
Total DDE (1/2 DL)	3.16	µg/kg	66	8	12%	80	2	0.7	0	44	4	9%	1.13	0	0.95	0	236	23	10%	5.7	1	1.4	0
2,4'-DDT	no SEV	µg/kg	66	8	12%	57	-	1.3	-	44	0	0%	-	-	1.9	-	236	12	5%	6.5	-	2.8	-
4,4'-DDT	19	µg/kg	66	22	33%	200	2	1.1	0	44	2	5%	2.6	0	1.9	0	236	53	22%	20	1	2.8	0
Total DDT (1/2 DL)	4.16	µg/kg	66	22	33%	257	3	0.7	0	44	2	5%	2.96	0	0.95	0	236	53	22%	26.5	4	1.4	0
Total DDx (1/2 DL)	5.28	µg/kg	66	22	33%	341.65	3	0.7	0	44	5	11%	5.0	0	0.95	0	236	63	27%	31.3	7	1.4	0
Aldrin	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	1	0.4%	0.17	-	1.4	-
Atrazine	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
alpha-BHC	no SEV	µg/kg	66	1	2%	0.23	-	2.6	-	44	0	0%	-	-	0.93	-	236	1	0.4%	0.18	-	1.4	-
beta-BHC	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	0	0%	-	-	1.4	-
delta-BHC	13000**	µg/kg-TOC	66	0	0%	-	-	1189	0	44	0	0%	-	-	1303	0	236	0	0%	-	-	1352	0
gamma-BHC (Lindane)	2.37	µg/kg	66	0	0%	-	-	2.6	1	44	0	0%	-	-	0.93	0	236	0	0%	-	-	1.4	0
alpha-Chlordane	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	1	0.4%	1.1	-	1.4	-
cis-Nonachlor	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	0	0%	-	-	1.4	-
gamma-Chlordane	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	2	0.8%	0.84	-	1.4	-
Oxychlordane	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	1	2%	0.35	-	0.93	-	236	0	0%	-	-	1.4	-
trans-Nonachlor	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	1	0.4%	1	-	1.4	-
Total Chlordane (1/2 DL)	3.24	µg/kg	66	0	0%	-	-	1.3	0	44	1	2%	1.19	0	0.465	0	236	3	1%	2.75	0	0.7	0
Dieldrin	1.9	µg/kg	66	0	0%	-	-	5.1	1	44	0	0%	-	-	1.9	1	236	0	0%	-	-	2.8	20
Endosulfan I	290**	µg/kg-TOC	66	0	0%	-	-	1189	24	44	0	0%	-	-	1303	13	236	0	0%	-	-	1352	76
Endosulfan II	1400**	µg/kg-TOC	66	0	0%	-	-	2378	10	44	0	0%	-	-	2682	1	236	0	0%	-	-	2847	32
Endrin	2.22	µg/kg	66	0	0%	-	-	5.1	1	44	0	0%	-	-	1.9	0	236	0	0%	-	-	2.8	8
Endrin aldehyde	no SEV	µg/kg	66	0	0%	-	-	5.1	-	44	1	2%	0.42	-	1.8	-	236	0	0%	-	-	2.8	-
Endrin ketone	no SEV	µg/kg	66	0	0%	-	-	5.1	-	44	0	0%	-	-	1.9	-	236	0	0%	-	-	2.8	-
Heptachlor	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	0	0%	-	-	1.4	-
Heptachlor epoxide	2.47	µg/kg	66	0	0%	-	-	2.6	1	44	0	0%	-	-	0.93	0	236	0	0%	-	-	1.4	0
Hexachlorobenzene	no SEV	µg/kg	66	5	8%	8.5	-	2.6	-	44	0	0%	-	-	0.93	-	236	2	0.8%	0.3	-	1.4	-
Hexachlorobutadiene	no SEV	µg/kg	66	0	0%	-	-	2.6	-	44	0	0%	-	-	0.93	-	236	0	0%	-	-	1.4	-
Methoxychlor	1900**	µg/kg-TOC	66	3	5%	7158	3	11888	27	44	0	0%	-	-	13027	18	236	2	0.8%	2315	1	13523	91
Toxaphene	10000**	µg/kg-TOC	66	0	0%	-	-	118881	44	44	0	0%	-	-	130268	29	236	0	0%	-	-	135231	132
SVOCs																							
1,1'-Biphenyl	110000**	µg/kg-TOC	66	0	0%	-	-	297203	19	44	0	0%	-	-	329502	6	236	0	0%	-	-	335878	54
1,2,4-Trichlorobenzene	920000**	µg/kg-TOC	66	0	0%	-	-	297203	0	44	0	0%	-	-	329502	0	236	0	0%	-	-	335878	0
1,2-Dichlorobenzene	34000**	µg/kg-TOC	66	0	0%	-	-	297203	36	44	0	0%	-	-	329502	22	236	0	0%	-	-	335878	112
1,3-Dichlorobenzene	170000**	µg/kg-TOC	66	0	0%	-	-	297203	9	44	0	0%	-	-	329502	2	236	0	0%	-	-	335878	31
1,4-Dichlorobenzene	35000**	µg/kg-TOC	66	0	0%	-	-	297203	36	44	0	0%	-	-	329502	22	236	0	0%	-	-	335878	111
2,2'-oxybis(1-Chloropropane)	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2,4,5-Trichlorophenol	no SEV	µg/kg	66	0	0%	-	-	400	-	44	0	0%	-	-	580	-	236	0	0%	-	-	880	-
2,4,6-Trichlorophenol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2,4-Dichlorophenol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2,4-Dimethylphenol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2,4-Dinitrophenol	no SEV	µg/kg	56	0	0%	-	-	400	-	44	0	0%	-	-	580	-	188	0	0%	-	-	880	-
2,4-Dinitrotoluene	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2,6-Dinitrotoluene	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2-Chloronaphthalene	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2-Chlorophenol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2-Methylphenol (o-cresol)	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
2-Nitroaniline	no SEV	µg/kg	66	0	0%	-	-	400	-	44	0	0%	-	-	580	-	236	0	0%	-	-	880	-
2-Nitrophenol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-

Table B-1. Screening Results for Sediments Collected by EPA throughout the UCR in 2005

Analyte	Screening SEV	Units	Beach Surface Samples N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	Core Samples N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	Transect Surface Samples N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
SVOCs (continued)																							
3,3'-Dichlorobenzidine	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
3-Nitroaniline	no SEV	µg/kg	66	0	0%	-	-	400	-	44	0	0%	-	-	580	-	236	0	0%	-	-	880	-
4,6-Dinitro-2-methylphenol	no SEV	µg/kg	66	0	0%	-	-	400	-	44	0	0%	-	-	580	-	236	0	0%	-	-	880	-
4-Bromophenyl-phenylether	130000**	µg/kg-TOC	66	0	0%	-	-	297203	15	44	0	0%	-	-	329502	4	236	0	0%	-	-	335878	44
4-Chloro-3-methylphenol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
4-Chloroaniline	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
4-Chlorophenyl-phenyl ether	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
4-Methylphenol (p-cresol)	760	µg/kg	66	0	0%	-	-	160	0	44	0	0%	-	-	230	0	236	1	0.4%	120	0	350	0
4-Nitroaniline	no SEV	µg/kg	66	0	0%	-	-	400	-	44	0	0%	-	-	580	-	236	0	0%	-	-	880	-
4-Nitrophenol	no SEV	µg/kg	66	0	0%	-	-	400	-	44	0	0%	-	-	580	-	236	0	0%	-	-	880	-
Acetophenone	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	1	0.4%	26	-	350	-
Benzaldehyde	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
Benzoic acid	2910	µg/kg	49	0	0%	-	-	160	0	0		-	-	-	n/a	n/a	99	0	0%	-	-	600	0
Benzyl alcohol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
bis(2-Chloroethoxy)methane	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
Bis(2-chloroethyl)ether	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	2	0.8%	63	-	350	-
bis(2-Ethylhexyl)phthalate	230	µg/kg	66	0	0%	-	-	160	0	44	2	5%	71	0	230	1	236	4	2%	40	0	350	25
Butyl benzyl phthalate	260	µg/kg	66	0	0%	-	-	160	0	44	0	0%	-	-	230	0	236	0	0%	-	-	350	9
Caprolactam	no SEV	µg/kg	66	2	3%	150	-	160	-	44	0	0%	-	-	230	-	236	3	1%	76	-	350	-
Carbazole	923	µg/kg	66	0	0%	-	-	160	0	44	0	0%	-	-	230	0	236	0	0%	-	-	350	0
Dibenzofuran	399	µg/kg	66	15	23%	10	0	8	0	44	8	18%	6	0	12	0	236	48	20%	3	0	18	0
Diethyl phthalate	63000**	µg/kg-TOC	66	0	0%	-	-	297203	29	44	0	0%	-	-	329502	14	236	0	0%	-	-	335878	80
Dimethyl phthalate	46	µg/kg	66	0	0%	-	-	160	66	44	0	0%	-	-	230	44	236	0	0%	-	-	350	236
Di-n-butyl phthalate	103	µg/kg	66	0	0%	-	-	160	15	44	0	0%	-	-	230	21	236	0	0%	-	-	350	137
Di-n-octylphthalate	11	µg/kg	66	0	0%	-	-	160	66	44	0	0%	-	-	230	44	236	0	0%	-	-	350	236
Hexachloroethane	100000**	µg/kg-TOC	66	0	0%	-	-	297203	22	44	0	0%	-	-	329502	8	236	0	0%	-	-	335878	60
Isophorone	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
Nitrobenzene	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
N-Nitrosodi-n-propylamine	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
N-Nitrosodiphenylamine	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
Pentachlorophenol	no SEV	µg/kg	66	0	0%	-	-	400	-	44	0	0%	-	-	580	-	236	0	0%	-	-	880	-
Hexachlorocyclopentadiene	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-
Phenol	no SEV	µg/kg	66	0	0%	-	-	160	-	44	0	0%	-	-	230	-	236	0	0%	-	-	350	-

Data source: EPA (2006). Raw data presented in Appendix Tables B-4 through B-9.

Notes:

(shaded) Shaded values are greater than or equal to the SEV.
SEV — SEV
N — Sample size
DT — Number of detected samples
FOD — Frequency of detection
Max Msd — Maximum measured concentration
#Msd>SEV — Number of measured samples greater than SEV
Max DL — Maximum detection limit
#DL>SEV — Number of detection limits from non-detected samples greater than SEV
n/a — Not applicable since all concentrations were detected (FOD = 100%)
** — The only available sediment SEV is expressed in units normalized to total organic carbon content. Therefore, the screening evaluation was based on the sample-specific total organic normalized (TOC) concentration compared to the TOC-normalized SEV. The value shown in the Screening SEV column represents the SEV presented in units of ug/kg per total organic carbon content (ug/kg-TOC).

Table B-2. Screening Results for Sediments Collected by EPA throughout the UCR (above RM 675) in 2001

Analyte	Units	Screening SEV	Columbia River Samples						
			N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Metals/Metalloids									
Aluminum	mg/kg	no SEV	50	50	100%	21200	-	n/a	n/a
Antimony	mg/kg	0.4	50	43	86%	61.3	43	3.4	7
Arsenic	mg/kg	9.79	50	45	90%	42.8	23	8.1	0
Barium	mg/kg	no SEV	50	50	100%	2440	-	n/a	n/a
Beryllium	mg/kg	0.46	50	50	100%	1	32	n/a	n/a
Cadmium	mg/kg	0.99	50	43	86%	11.1	36	0.08	0
Calcium	mg/kg	no SEV	50	50	100%	162000	-	n/a	n/a
Chromium	mg/kg	43	50	50	100%	165	10	n/a	n/a
Cobalt	mg/kg	no SEV	50	50	100%	85.7	-	n/a	n/a
Copper	mg/kg	32	50	50	100%	3300	43	n/a	n/a
Iron	mg/kg	no SEV	50	50	100%	245000	-	n/a	n/a
Lead	mg/kg	36	50	50	100%	1590	43	n/a	n/a
Magnesium	mg/kg	no SEV	50	50	100%	26600	-	n/a	n/a
Manganese	mg/kg	no SEV	50	50	100%	4360	-	n/a	n/a
Mercury	mg/kg	0.18	50	34	68%	1.7	23	0.14	0
Nickel	mg/kg	23	50	50	100%	28.5	11	n/a	n/a
Selenium	mg/kg	no SEV	50	17	34%	4.5	-	2	-
Silver	mg/kg	0.545	50	49	98%	12.6	46	0.32	0
Sodium	mg/kg	no SEV	50	49	98%	2630	-	337	-
Thallium	mg/kg	no SEV	50	8	16%	4.6	-	2.3	-
Vanadium	mg/kg	no SEV	50	50	100%	45	-	n/a	n/a
Zinc	mg/kg	121	50	50	100%	24900	43	n/a	n/a
Pesticides									
4,4'-DDD	µg/kg	96	50	0	0%	-	-	8.7	0
4,4'-DDE	µg/kg	21	50	0	0%	-	-	8.7	0
4,4'-DDT	µg/kg	19	50	0	0%	-	-	8.7	0
Total DDx (1/2 DL)	µg/kg	5.28	50	0	0%	-	-	4.35	0
Aldrin	µg/kg	no SEV	50	0	0%	-	-	4.5	-
Alpha-BHC	µg/kg	no SEV	50	0	0%	-	-	4.5	-
Beta-BHC	µg/kg	no SEV	50	0	0%	-	-	4.5	-
Delta-BHC	µg/kg-TOC	13000**	50	0	0%	-	-	2300	0
Gamma-BHC (Lindane)	µg/kg	2.37	50	0	0%	-	-	4.5	17
(alpha) cis-Chlordane	µg/kg	no SEV	50	0	0%	-	-	4.5	-
(gamma) trans-Chlordane	µg/kg	no SEV	50	0	0%	-	-	4.5	-
Total Chlordane (1/2 DL)	µg/kg	3.24	50	0	0%	-	-	2.25	0
Dieldrin	µg/kg	1.9	50	0	0%	-	-	8.7	50
Endosulfan I	µg/kg-TOC	290**	50	0	0%	-	-	2300	22
Endosulfan II	µg/kg-TOC	1400**	50	0	0%	-	-	4500	13
Endosulfan Sulfate	µg/kg	no SEV	50	0	0%	-	-	8.7	-
Endrin	µg/kg	2.22	50	0	0%	-	-	8.7	50

Table B-2. Screening Results for Sediments Collected by EPA throughout the UCR (above RM 675) in 2001

Analyte	Units	Screening SEV	Columbia River Samples						
			N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Pesticides (continued)									
Endrin Aldehyde	µg/kg	no SEV	50	0	0%	-	-	8.7	-
Endrin Ketone	µg/kg	no SEV	50	0	0%	-	-	8.7	-
Heptachlor	µg/kg	no SEV	50	0	0%	-	-	4.5	-
Heptachlor Epoxide	µg/kg	2.47	50	0	0%	-	-	4.5	17
Methoxychlor	µg/kg-TOC	1900**	50	1	2%	3796	1	23000	29
Toxaphene	µg/kg-TOC	10000**	50	0	0%	-	-	230000	45
PCBs									
Aroclor 1016	µg/kg	no SEV	50	0	0%	-	-	87	-
Aroclor 1221	µg/kg	no SEV	50	0	0%	-	-	180	-
Aroclor 1232	µg/kg	no SEV	50	0	0%	-	-	87	-
Aroclor 1242	µg/kg	no SEV	50	0	0%	-	-	87	-
Aroclor 1248	µg/kg	no SEV	50	0	0%	-	-	87	-
Aroclor 1254	µg/kg	230	50	1	2%	38	0	87	0
Aroclor 1260	µg/kg	138	50	1	2%	17	0	87	0
Total PCBs (1/2 DL)	µg/kg	59.8	50	1	2%	244	1	90	8

Data source: USEPA (2003a). Raw data presented in Appendix Tables B-10 and B-11.

Notes:

(shaded)	Shaded values are greater than or equal to the SEV.
SEV	SEV
N	Sample size
# DT	Number of detected samples
FOD	Frequency of detection
Max Msd	Maximum measured concentration
#Msd>SEV	Number of measured samples greater than SEV
Max DL	Maximum detection limit
#DL>SEV	Number of detection limits from non-detected samples greater than SEV
n/a	Not applicable since all concentrations were detected (FOD = 100%)
**	The only available sediment SEV is expressed in units normalized to total organic carbon content. Therefore, the screening evaluation was based on the sample-specific total organic normalized (TOC) concentration compared to the TOC-normalized SEV. The value shown in the Screening SEV column represents the SEV presented in units of ug/kg per total organic carbon content (ug/kg-TOC).

Table B-3. Screening Results for Metals/Metalloids in Sediments Collected by Ecology and USGS throughout the UCR in 2001, 2003 and 2004

		Screening	Ecology Surface Samples Collected in 2001							USGS Core Samples Collected in 2003							USGS Surface Samples Collected in 2003							USGS Surface Samples Collected in 2004						
Analyte	Units	SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV	N	# DT	FOD	Max Msd	#Msd>SEV	Max DL	#DL>SEV
Aluminum	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	94000	-	n/a	n/a	6	6	100%	76000	-	n/a	n/a	29	29	100%	85000	-	n/a	n/a
Antimony	mg/kg	0.4	0	-	-	-	-	-	-	89	89	100%	160	89	n/a	n/a	6	6	100%	7.2	6	n/a	n/a	29	29	100%	323	29	n/a	n/a
Arsenic	mg/kg	9.79	9	8	89%	20	4	2	0	89	89	100%	34	70	n/a	n/a	6	6	100%	10	1	n/a	n/a	29	29	100%	46.8	18	n/a	n/a
Barium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	2800	-	-	-	6	6	100%	1500	-	-	-	29	29	100%	3100	-	-	-
Beryllium	mg/kg	0.46	0	-	-	-	-	-	-	89	89	100%	2.8	89	n/a	n/a	6	6	100%	2.6	6	n/a	n/a	29	29	100%	3	29	n/a	n/a
Bismuth	mg/kg	no SEV	0	-	-	-	-	-	-	89	88	99%	2.2	-	0.005	-	6	6	100%	0.64	-	-	-	29	29	100%	0.94	-	-	-
Cadmium	mg/kg	0.99	9	9	100%	18	8	n/a	n/a	89	89	100%	23	88	n/a	n/a	6	6	100%	9.2	6	n/a	n/a	29	28	97%	10.5	19	0.003	0
Calcium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	99000	-	-	-	6	6	100%	36000	-	-	-	29	29	100%	95400	-	-	-
Cerium	mg/kg	no SEV	0	-	-	-	-	-	-	87	87	100%	130	-	-	-	6	6	100%	92	-	-	-	29	29	100%	111	-	-	-
Cesium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	9.3	-	-	-	6	6	100%	5.2	-	-	-	29	29	100%	7.8	-	-	-
Chromium	mg/kg	43	0	-	-	-	-	-	-	89	89	100%	250	85	n/a	n/a	6	6	100%	110	6	n/a	n/a	29	29	100%	298	27	n/a	n/a
Cobalt	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	88	-	-	-	6	6	100%	20	-	-	-	29	29	100%	86.8	-	-	-
Copper	mg/kg	32	9	9	100%	2210	6	n/a	n/a	89	89	100%	3600	82	n/a	n/a	6	6	100%	130	6	n/a	n/a	29	29	100%	3790	20	n/a	n/a
Gallium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	35	-	-	-	6	6	100%	18	-	-	-	29	29	100%	33.5	-	-	-
Iron	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	320000	-	-	-	6	6	100%	42000	-	-	-	29	29	100%	220000	-	-	-
Lanthanum	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	160	-	-	-	6	6	100%	74	-	-	-	29	29	100%	75.1	-	-	-
Lead	mg/kg	36	9	9	100%	344	6	n/a	n/a	89	89	100%	920	89	n/a	n/a	6	6	100%	430	6	n/a	n/a	29	29	100%	926	20	n/a	n/a
Lithium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	46	-	-	-	6	6	100%	33	-	-	-	29	29	100%	45	-	-	-
Magnesium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	32000	-	-	-	6	6	100%	21000	-	-	-	29	29	100%	22200	-	-	-
Manganese	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	5400	-	-	-	6	6	100%	1100	-	-	-	29	29	100%	5860	-	-	-
Mercury	mg/kg	0.18	9	8	89%	1.25	3	0.0007	0	86	86	100%	2.8	66	n/a	n/a	0	-	-	-	-	-	-	0	-	-	-	-	-	-
Molybdenum	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	54	-	-	-	6	6	100%	4.4	-	-	-	29	29	100%	62	-	-	-
Nickel	mg/kg	23	0	-	-	-	-	-	-	89	89	100%	48	71	n/a	n/a	6	6	100%	39	6	n/a	n/a	29	29	100%	50.1	14	n/a	n/a
Niobium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	36.7	-	-	-	6	6	100%	34	-	-	-	0	-	-	-	-	-	-
Phosphorus	mg/kg	no SEV	0	-	-	-	-	-	-	88	88	100%	2100	-	-	-	6	6	100%	1700	-	-	-	29	29	100%	1700	-	-	-
Potassium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	29000	-	-	-	6	6	100%	24000	-	-	-	29	29	100%	27500	-	-	-
Rubidium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	140	-	-	-	6	6	100%	100	-	-	-	29	29	100%	130	-	-	-
Scandium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	19	-	-	-	6	6	100%	13	-	-	-	29	29	100%	16.5	-	-	-
Selenium	mg/kg	no SEV	0	-	-	-	-	-	-	86	86	100%	2.4	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-
Silver	mg/kg	0.545	0	-	-	-	-	-	-	89	17	19%	9	17	3	72	6	6	100%	2.7	5	n/a	n/a	28	4	14%	5.4	4	3	24
Sodium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	22000	-	-	-	6	6	100%	18000	-	-	-	29	29	100%	23700	-	-	-
Strontium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	600	-	-	-	0	-	-	-	-	-	-	29	29	100%	601	-	-	-
Tantalum	mg/kg	no SEV	0	-	-	-	-	-	-	86	86	100%	2.6	-	-	-	6	6	100%	1.9	-	-	-	0	-	-	-	-	-	-
Thallium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	1.9	-	-	-	6	6	100%	1.7	-	-	-	29	29	100%	2.2	-	-	-
Thorium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	27	-	-	-	6	6	100%	14	-	-	-	29	29	100%	17.8	-	-	-
Titanium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	5500	-	-	-	6	6	100%	3600	-	-	-	29	29	100%	4600	-	-	-
Uranium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	14	-	-	-	6	6	100%	5.3	-	-	-	29	29	100%	6.4	-	-	-
Vanadium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	130	-	-	-	6	6	100%	110	-	-	-	29	29	100%	125	-	-	-
Ytterbium	mg/kg	no SEV	0	-	-	-	-	-	-	86	86	100%	4.6	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-
Yttrium	mg/kg	no SEV	0	-	-	-	-	-	-	89	89	100%	100	-	-	-	6	6	100%	50	-	-	-	29	29	100%	51.6	-	-	-
Zinc	mg/kg	121	9	9	100%	16100	6	n/a	n/a	89	89	100%	25000	89	n/a	n/a	6	6	100%	980	6	n/a	n/a	29	29	100%	23000	21	n/a	n/a

Data sources: Ecology (2001) and USGS (Cox et al. 2005, Paulson et al. 2006). Raw data presented in Appendix Tables B-12 through B-14.

Notes:

(shaded)	Shaded values are greater than or equal to the SEV.
SEV	SEV
N	Sample size
# DT	Number of detected samples
FOD	Frequency of detection
Max Msd	Maximum measured concentration
#Msd>SEV	Number of measured samples greater than SEV
Max DL	Maximum detection limit
#DL>SEV	Number of detection limits from non-detected samples greater than SEV
n/a	Not applicable since all concentrations were detected (FOD = 100%)

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	TOC	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	mg/kg	286 U	7150	1 UJ	8.5	41.1	0.53	0.52 U	5990	9	3.7 J	6.5	14300	6.1	5360	226	0.1 U	7.5
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	mg/kg	825	7800	1.1 UJ	7.5	51.5	0.6	0.51 U	1810	9.7	4.1 J	5.5	14900	7.1	5590	208	0.11 U	7.5
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	mg/kg	558	8310	0.79 UJ	10.3	51	0.64	0.52 U	1960	9.6	4.4 J	7.1	15400	6.7	5880	227	0.11 U	8.2
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	mg/kg	385	6270	0.58 UR	4	45.6	0.51	0.5 U	3880	9.8	3.9 J	6.7	13100	4.5	4330	214	0.11 U	8.5
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	mg/kg	910	8030	0.89 UR	4.9	58.6	0.68	0.48 U	1760	11.2	5	8.6	15500	6.3	4390	230	0.11 U	9.4
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	mg/kg	1330	8620	0.95 UR	4.7	68.8	0.74	0.5 U	1940	12.5	5.4	9.1	15600	5.9	4210	248	0.11 U	10.1
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	mg/kg	1850	7160	0.79 UR	5.9	61	0.47	0.064 U	11500	9.6	14.2	11.5	14200	6.2	6530	334	0.1 U	8.5
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	mg/kg	582	6900	1.3 UR	6.7	33.6	0.43 J	0.058 U	15100	9.1	3.5 J	10	12600	4.7	6240	224	0.11 U	7.8
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	mg/kg	543	5070	0.92 UR	5.9	34.9	0.32 J	0.47 U	10300	6.2	3 J	7.3	10200	4.4	5320	217	0.098 U	6.1
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	mg/kg	357	4810	0.73 UR	2.2	37.7	0.37 J	0.22 J	1580	9.6	3.7 J	7.4	9720	5.1	2390	134	0.1 U	9
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	mg/kg	789	5810	1.2 UR	1.9	53.3	0.44 J	0.11 J	1700	13.2	4.1 J	9	9800	5.4	2590	157	0.11 U	10.2
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	mg/kg	460	2760	0.97 UR	0.97 U	20.6	0.21 J	0.056 J	1670	5.7	2.1 J	4.9	4930	3.1	1540	95.3	0.1 U	5.1
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	mg/kg	1500	9080 J	1.2 J	4.1	77.9	0.66	0.17 J	2990	14.8	6.4	12.1	14800	6.7	3550	248	0.01 J	12.8
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	mg/kg	3680	12200 J	1.5 J	5.3	117	0.9	0.74	4120	24.2	10.4	20	21100	19.7	4970	383	0.031 J	21.1
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	mg/kg	4660	10200 J	1.1 J	3.6	77.7	0.68	1	2520	18	6.9	14.7	16000	33.7	3700	167	0.053 J	15.5
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	mg/kg	7430	7780 J	1 J	2.3	65.6	0.63	3.1	3100	19.5	5.6 J	14.8	13300	51.1	4040	145	0.062 J	14
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	mg/kg	3470	7520	1.1 J	3.6	80.3	0.59 J	0.63	6050	17.7	6.7	16.1	15200 J	15.8	4520	194	0.03 J	15.9
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	mg/kg	5330	12300	1.6 J	7	152	0.93 J	2.4	5200	28	10	28.7	22600 J	102	6530	526	0.21	23.8
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	mg/kg	2530	6550	0.42 UJ	2.4	61.8	0.46	0.51	4830	12.8	4.5	10.9	11000	20.7	4590	208	0.099 U	15
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	mg/kg	2360	6050	1 UJ	2.4	57.6	0.51 J	0.33 J	2430	12.4	4.3 J	14.5	9960	18.7	2770	171	0.019 J	9.6
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	mg/kg	3700	6370	0.95 UJ	2.6	56.4	0.52 J	0.45 J	3050	12.7	4.9 J	13.8	12000	21.9	3980	260	0.03 J	10.9
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	mg/kg	1430	3000	0.29 UJ	1	29.8	0.28 J	0.32 J	879	5.6	2.3 J	4.2	5180	16.5	1390	111	0.099 U	4.1
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	mg/kg	725	7660	1.8 J	1.4	102	0.69	4.4	2550	14.6	5.2 J	16.5	11800	136	3210	158	0.29	11.2
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	mg/kg	23200	13000	1.8 J	2.3	232	1.2 J	7.8	5670	24.8	8.7	34	18100	222	5220	267	0.8 J	19.7
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	mg/kg	3410	7310	6.2 UJ	3.9 U	101	0.36 J	1.6	7110	14	5.2	14.1	12700	52.3	4220	170	0.078 J	12.9
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	mg/kg	22200 J	9890	2 J	8.6	264	0.56 J	5.6	6920	19.9	7.1	57.8	23400	202	5390	246	0.47	16.8
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	mg/kg	19900 J	8600	8.1 UJ	6.5	258	0.48 J	7.3	7520	19.7	6.8 J	50.3	17600	297	6070	214	0.81	16.3
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	mg/kg	2790	4350	0.47 UJ	5	102	0.28 J	1.1	6090	15.1	4.3 J	22.9	16000	68.8	4140	171	0.068 J	9.6
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	mg/kg	20300	7880	3.6 J	9.6	315	0.53 J	4.2	15400	22.8	8.5	132	23500	223	10200	270	0.4	17.2
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	mg/kg	8810	7060	6.4 J	10.7	407	0.48 J	4.2	24700	24.9	9.8	216	29500	216	13900	434	0.37	15.3
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	mg/kg	4000 J	10700	11.2 J	13.7	686	0.77	2.5	35100	51.3	22.4	802	82100	214	9090	1660	0.073 J	10.4
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	mg/kg	1940 J	11900	32.4 J	22.5	1070	0.88	1.9	39900	77.6	36.8	1380	110000	190	6450	2200	0.044 J	12.1
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	mg/kg	1210 J	11300	24.8 J	18.1	1020	0.84	2.1	37700	71.9	35.1	1300	108000	205	5640	2110	0.034 J	10.4
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	mg/kg	3290 J	18600	47.7 J	27.3	1750	1.3	1.4	66900	128	51	2350	211000	266	8290	3680	0.65	12.4
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	mg/kg	771	18600	52.3 J	25.2	1680	1.3	1.2	63300	123	48.6	2240	187000	231	7070	3680	0.03 J	12.1
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	mg/kg	2150	19000	18.6 J	16.1	1280	1.2	1	58700	101	29.5	1620	197000	276	6670	3080	0.028 J	9.3
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	mg/kg	944	7350	0.53 J	3.9	62.4	0.43 J	0.25 J	1660	11.2	4.7 J	6	13100	13.2	3420	136	0.032 J	9.4
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	mg/kg	4810	7890	1.3 J	3.4	67.5	0.55 J	0.46 J	2030	12.1	5.4 J	8.9	13800	9	3430	111	0.012 J	10.5
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	mg/kg	4500	11600	1.3 J	4.2	114	0.72	0.29 J	2360	13.1	6.2	11.2	16300	9.5	3610	254	0.007 J	10.8
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	mg/kg	6420	11400	0.89 J	5.6	112	0.75	0.51 J	2630	14.4	6.6	13.4	16300	16.8	4120	215	0.033 J	12.3
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	mg/kg	3470	9680	0.79 J	4.3	91.4	0.67	0.37 J	2160	15.3	6.4	10.3	16000	16.1	3920	184	0.018 J	12.3
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	mg/kg	4290	10900	1.2 J	6.3	95.5	0.7	0.46 J	2210	13.1	6	10.5	15500	22.5	3630	172	0.035 J	10.7
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	mg/kg	7050	8950	1 J	3.2	83.8	0.65	0.98	2740	14.3	6.1	13.5	14000	31.2	3690	218	0.073 J	12.2
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	mg/kg	4680	13600	0.58 J	6.4	158	1	1.9	3210	18.3	9.2	23.2	18700	24.4	4370	340	0.065 J	16.5
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	mg/kg	11100	12300 J	1.8 UJ	4.5	106	0.92	2	2990	18.2	7.7	20.5	17400	119	4260	292	0.27	15
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	mg/kg	475	5400	0.37 UJ	1.4	48.3 J	0.36 J	0.11 J	2220	10.6 J	3.8 J	9.9	11300	5.2	3230	259	0.11 U	8.3
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	mg/kg	430	4600	0.61 UJ	1.5	43.6 J	0.32 J	0.18 J	1900	9.1 J	3.1 J	10.7	8640	6	2560	125	0.11 U	7.4
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	mg/kg	471	4700	5.3 UJ	1.8	37.9 J	0.31 J	0.15 J	1950	9.7 J	3.2 J	9.8	8650	4.3	2870	146	0.098 U	7.6
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	mg/kg	694	5740	0.95 UJ	1	40.3 J	0.38 J	0.15 J	2570	10.1 J	3.5 J	10	9930	7.3	3100	147	0.1 U	7.8
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	mg/kg	864	4910	6.4 UJ	1.3	40.3 J	0.37 J	0.23 J	2460	9.6 J	3.5 J	9.2	9320	6.8	2860	161	0.11 U	8.3
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	mg/kg	514	4760	0.3 UJ	1.5	38.4 J	0.36 J	0.11 J	2380	9.6 J	3.8 J	9.3	9690	4	2690	145	0.1 U	7.2
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	mg/kg	555	16000	1.3 UJ	2.3	169 J	1.4	0.36 J	16200	36.9 J	12.7	26.7	26000	10.7	9960	605	0.007 J	29.9
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	mg/kg	472	4730	0.45 UJ	1.5	36.9 J	0.35 J	0.19 J	2430	10.3 J	3.8 J	10	10100	7.6	3100	147	0.004 J	8.2
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	mg/kg	963	10100	0.31 UJ	1.8	106 J	0.83	0.22 J	7890	21.6 J	7.5	16.1	16200	8.3	5970	390	0.007 J	18.1

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	TOC	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	mg/kg	8460	6280	8.9 J	6.9	459	0.57	2.8	28500	24.6	9.7	271	33500	163	13800	619	0.098 J	11.7
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	mg/kg	1290	17300	52.1 J	18.2	1620	1.3	0.84	58100	111	48.2	2130	171000	239	6040	3430	0.027 J	13.6
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	mg/kg	4430	5950	3.6 J	6.9	465	0.59	3.1	27300	16.6	6.7	98	21300	156	14500	288	0.099 J	13.1
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	mg/kg	9140	9810	14.8 J	10.5	616	0.73	3.2	43700	37.8	14.6	598	71600	249	14500	1220	0.14	11.2
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	mg/kg	1220	21000	53.2 J	23.2	1980	1.5	0.27 J	68800	133	57.3	2620	213000	324	6370	4150	0.017 J	15.4
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	mg/kg	4660 J	6670	13.7 J	9.3	512	0.59	3.7	37400	27.8	10.6	328	40100	194	16200	642	0.14	12.5
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	mg/kg	3180 J	5720	9.6 J	6.1	403	0.54 J	3.7	30400	27.3	11.6	364	34600	174	13400	672	0.17	11
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	mg/kg	810 J	23100	43.6 J	35.7	2250	1.7	0.48	80300	145	56.6	3290	254000	535	6200	4780	0.017 J	17.1
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	mg/kg	5660 J	6950	15.6 J	10.2	534	0.57	4.8	46100	33	14	491	51500	217	16400	961	0.12 J	11.9
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	mg/kg	16700	11000	1.4 UJ	5.7	160	0.91	2.1	4170	21.2	8.4	27	19600	136	4480	291	0.41	21
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	mg/kg	1540	6250	14.9 J	2.4	424	0.61	3.5	23600	25.4	10.3 J	400	46400	266	7880	1030 J	0.16 J	7.7
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	mg/kg	609	7280	11.6 J	1.3 U	318	0.67	1.8	21200	25.9	10.1	396	57600	148	5470	1140	0.09 J	6.6
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	mg/kg	11400	21600	15.1 UJ	15.5	325	1.9	11.3	8400	35.4	15.9	60.8	34000	462	10500	953	1	30.5
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	mg/kg	5140	15800	8.4 UJ	4.8	179	1.3	0.43 J	4060	16.2	9.3	20.9	18700	20	5360	486	0.052 J	14.7
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	mg/kg	1770	11300	6.3 UJ	4.6	98.8	0.98	0.11 J	2680	16.6	8.1	15.4	17300	8.9	5350	344	0.009 J	14.4
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	mg/kg	1740	7220	6 UJ	6.6	54.1	0.58	0.08 J	5680	9.4	4.6 J	11.8	13700	9	5530	251	0.036 J	8.5
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	mg/kg	2470	8230	6.3 UJ	6	55.5	0.64	0.52 U	4490	10.1	5.1 J	10.3	15400	6.7	6040	281	0.01 U	8.8
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	mg/kg	2730	7660	5.1 UJ	6	52.3	0.57	0.053 J	3850	10	5.1	9.2	14200	6.5	5770	283	0.01 U	8.7
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	mg/kg	3960	8160	6.3 UJ	7.4	60.7	0.67	0.051 J	2500	10.2	4.9 J	9.9	15300	7.1	5800	276	0.007 U	8.6
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	mg/kg	1790	7290	5.7 UJ	5.8	57.6	0.59	0.05 J	2060	9.8	4.8	9.2	13900	6.6	5020	270	0.004 U	8.8
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	mg/kg	937	6390	6.1 UJ	6.3	39.4	0.49 J	0.51 U	10100	9	4.1 J	9.3	13400	5.2	5440	230	0.008 U	8.3
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	mg/kg	11800	20600	15.9 UR	9.9	243	1.8	5.4	5650	40.1	15 J	60.8	33100	180	9230	829	0.81	32
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	mg/kg	10300	17000	0.71 J	12.7	279	1.6	9.3	8910	30.4	12.2 J	41.5	26900	261	9140	654	0.83	24.4
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	mg/kg	4070	8350	6.9 UJ	2.4	80.2	0.81	0.09 J	2350	12.7	5.6 J	9.5	14700	7.9	3580	205	0.014 U	9.6
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	mg/kg	2560	8380	7.3 UJ	3.1	84.6	0.76	0.079 J	2230	11.2	5.6 J	9.5	13600	6.2	3560	221	0.011 U	9.6
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	mg/kg	7880	18600	9.6 UR	15.9	334	1.6	12.7	12800	38.3	13.6	70.7	34500	841	12200	735	1.5	32.8
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	mg/kg	3700	11100	5.9 UR	1.9 U	119	0.99	0.34 J	2520	13.9	6.4	11.9	13700	10.8	2920	265	0.022 J	12.1
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	mg/kg	632	8670	6.4 UR	1.2 U	90.2	0.82	0.1 J	2270	14.9	6.2	11.3	14300	5.4	2930	189	0.005 J	11.8
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	mg/kg	1090	11200	6.3 UR	1.6 U	108	0.98	0.52 U	2460	16	6.6	11.8	15600	5.3	3150	212	0.006 J	12.6
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	mg/kg	626	6460	6 UR	1.2 U	69.4	0.71	0.058 J	2000	14.7	6.2	11.4	12500	4.4	3240	212	0.007 J	12.4
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	mg/kg	7010	11700	7.6 UR	8.1	267	1.1	3.6	16800	29.1	10.2	43.3	24400	162	10500	437	0.47	25.8
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	mg/kg	4290	8840	7 UR	6.9	257	0.82	3.8	16700	24.1	8.5	34.4	19700	165	9510	362	0.6	22
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	mg/kg	3990	10200	5.9 UR	8.9	315	0.98	4.9	20100	27.2	9.2	34.7	22000	234	10800	403	0.6	24
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	mg/kg	1770	11000	7.2 UR	7.4	111	0.98	1.6	17300	28.9	9.9	28	23100	96.2	8410	428	0.4	26
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	mg/kg	1120	9220	6 UR	7.1	87.4	0.86	0.46 J	16200	25.6	8.7	21.6	20100	22.6	7040	349	0.049 J	22.8
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	mg/kg	10100	15900	13.3 UR	9	258	1.6	5.5	12600	41.8	13.5	98.5	29400	330 J	9950	553	1.5	28.1
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	mg/kg	7190	12800	10.3 UR	17.5	1040	1.2	14.2	38200	33.3	9.3	68.5	28800	690 J	22400	526	2.4	26
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	mg/kg	6340	14800	9.7 UR	14.3	409	1.4	13.2	22400	32.6	12.3	84.6	29300	1010 J	15100	617	2.7	27
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	mg/kg	7560	14600	10.8 UR	17.8	427	1.4	14.1	24500	33.5	12.8	120	30000	1050 J	15200	719	3.2	26.7
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	mg/kg	5530	16400	9.7 UR	17.3	600	1.6	17.9	28800	37.6	12.2	94.3	30400	1230 J	18600	728	2.3	29.6
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	mg/kg	32200	13400	14.3 UJ	5.3	361	1.5	8	18100	33.4	11.5 J	101	28700	288	12300	487 J	1.6 J	27.5
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	mg/kg	24800	11800	11.3 UJ	4.4	479	1.4	5	20500	32	11.4 J	129	27000	214	13000	497 J	0.52 J	24.4
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	mg/kg	16500	7440	10.1 UJ	2.9	284	0.82 J	5.4	15100	21.5	6.7 J	104	22300	216	8150	391 J	1.7 J	14.1
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	mg/kg	4030	8520	2.7 J	7.5	240	0.67	3.6	26600	18.7	11.7 J	299	40100	550	7490	828 J	0.063 J	9.7
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	mg/kg	17400	8850	0.82 UJ	9	501	0.8	9.8	55700	21.4	7.2 J	79.8	31200	367	23100	499	0.98 J	19.3
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	mg/kg	534	14200	14.2 J	5.8	650	1.2 J	0.25 J	32000	43.2	16.8	829	128000	382 J	5210	2300	0.015 J	7.6
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	mg/kg	261	14300	12.2 J	6.1	634	1.1 J	0.23 J	32400	41.6	17.1	831	127000	378 J	5010	2270	0.011 J	7.7
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	mg/kg	833	13900	11.4 J	5.3	599	1.1 J	0.38 J	29900	37.6	15.5	789	119000	431 J	4850	2180	0.016 J	6.6
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	mg/kg	778	15200	11.9 J	7.7	664	1.2 J	0.5 U	35500	43.9	17.1	875	127000	439 J	5520	2380	0.015 J	7.6
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	mg/kg	918	14900	12 J	10.3	680	1.2 J	0.48 U	33700	42.6	17.1	884	126000	542 J	5450	2380	0.013 J	7.6
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	mg/kg	2120	14700	13 J	8.8	671	1.2 J	0.47 J	33200	43.2	17.5	873	128000	498 J	5460	2490	0.013 J	7.4
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	mg/kg	899	22400	42.5 J	12.8	1570	1.8	4.4	67800	107	41.2 J	2170	256000	1150	7630	4460 J	0.035 J	11
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	mg/kg	2050	23000	28.5 J	11	1610	1.9	4.4	68700	109	41.6 J	2240	266000	1140	7430	4690 J	0.021 J	11
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	mg/kg	2770	16300	16.9 J	2.9	1050	1.3	3.9	52300	70	28.1 J	1330	168000	471	9230	3040 J	0.029 J	9.6

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	TOC	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	mg/kg	991	19700	38.7 J	3.2	1290	1.6	3.5	56900	88.1	34.9 J	1810	227000	524	6700	3770 J	0.013 J	10.1
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	mg/kg	842	18900	39.1 J	0.95 J	1430	1.6	4.4	58100	99.4	39.1 J	1950	206000	633	7350	3790 J	0.027 J	12
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	mg/kg	5390	9170 J	1 UJ	2.9	91.2	0.64	0.6 J	2320	12.6	5.6 J	10.8	13900	22.1	3350	186	0.037 J	10.6
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	mg/kg	626	4730	0.35 UJ	0.97	38.5 J	0.33 J	0.18 J	2260	8.7 J	3.2 J	9.4	8500	5.6	2820	142	0.099 U	7.4
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	mg/kg	4000 J	11900	33.3 J	17.7	1090 J	0.95	2.9	45500	70.4 J	28.8	1340	118000	227	9610	1980	0.075 J	13.4
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	mg/kg	636	6520	5.3 UR	5.2	46.7	0.53	0.038 J	10700	9.9	4.5 J	9.6	14200	5.3	6540	277	0.009 U	8.8
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	mg/kg	16800	22800	19.1 UR	10.5	302	2.1	3.5	5050	34.1	15.6 J	54.5	33500	96.2	8230	2200	0.3 J	30.8
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	mg/kg	600	5630	4.9 UR	3.7	38.4	0.47	0.084 J	3220	8.4	4.3 J	6	12000	5.7	4340	171	0.007 U	7.2
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	mg/kg	18000	34000	16.3 UR	12.6	393	2.7	5.3	6470	46.5	19.4	89.5	45800	144	11100	2290	0.48	39.2
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	mg/kg	1450	4100	4.4 UR	0.73 U	36.7	0.63	0.036 J	1460	2.6	3.4 J	3.4	9860	3.2	1840	158	0.098 U	2.4 J
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	mg/kg	574	6690	6 UR	3.4	42.2	0.51	0.21 J	1430	8.6	4.5 J	5.5	13700	7.5	4610	130	0.1 U	7.9
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	mg/kg	17600	23300	23.9 UR	10.6	280	2 J	10.4	5060	40.6	14.5 J	80.6	33200	239	8500	1380	1.3	31.2
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	mg/kg	636	6820	5.9 UR	9.1	59.1	0.51	0.49 U	11900	9.1	4.6 J	8.1	14100	5.8	6940	318	0.006 J	8.2
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	mg/kg	16100	22000	18.9 UR	9	261	1.9	4.4	4890	35.4	14.7 J	70.9	34500	168	8220	1140	0.84	28.7
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	mg/kg	16100	28800	23.2 UR	11.7	326	2.3	7.1	5970	45.7	17.9 J	86.1	41300	249	10100	1680	1.2	35.9
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	mg/kg	16000	25200	25.3 UR	10.2	268	2 J	7.8	5060	41.2	15.1 J	69.2	33700	242	8400	1220	1.2	30.2
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	mg/kg	18100	13900	22 UR	4.9	183	1.2 J	4	3170	23.9	9.3 J	49.3	22000	115	5220	809	0.86	19.3
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	mg/kg	17600	21200	21.2 UR	11	257	1.9	4.8	4700	34.5	14.1 J	68	31800	150	8160	1210	0.77	29.2
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	mg/kg	1360	7580	5.6 UR	6.3	51.2	0.53	0.26 J	1570	10.7	4.3 J	6.8	15000	10.4	5530	275	0.14 U	9.6
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	mg/kg	384	7400	6 UR	7	75.7	0.73	0.5 U	10000	11.1	6	9.7	16700	7.5	6280	339	0.11 U	9.4
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	mg/kg	365	15100	5.3 UR	0.89 U	62.3	1.4	0.45 U	9170	1.2	5.6	9.6	15700	6.4	5290	382	0.11 U	0.68 J
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	mg/kg	15800	21200	16.4 UR	6.7	246	2	3.4	4950	30.2	14.1	62.1	32700	128	7390	891	0.66	24.7
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	mg/kg	444	7040	5.7 UR	5.7	53	0.62	0.047 U	4160	11.2	4.5 J	8.3	15400	6.8	5280	227	0.004 J	8.3
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	mg/kg	16600	20200	16.3 UR	7.4	219	1.8	3.9	4490	28.2	13.1 J	55.7	29300	120	6660	1100	0.61	22.6
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	mg/kg	804	6770	5.7 UR	4	48.4	0.54	0.077 U	2240	12.5	4.5 J	7.6	13900	6.1	5450	200	0.004 J	10.7
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	mg/kg	817	9510	5.8 UR	9.6	77.2	0.84	0.48 U	12800	12.2	6.9	12.2	18000	9.3	7580	410	0.004 J	10.7
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	mg/kg	4710	10100	10.1 UR	8.8	119	0.96	3.5	5060	15.3	7.6 J	26.8	16300	98.8	4580	474	0.21	13.8
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	mg/kg	576	7470	5.5 UR	11.7	46.2	0.54	0.46 U	12800	9.5	4.1 J	9.1	14100	6	7600	284	0.1 U	8.9
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	mg/kg	445	10500	6.3 UR	14.6	127	1	0.53 U	13200	17.2	8.7	16.4	21700	12.1	7420	444	0.005 J	15.8
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	mg/kg	7420	16300	11.1 UJ	10.3	217	1.5	3.4	8510	27	13.2	49.5	28700	108	8790	968	0.27	22.9
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	mg/kg	5170	6500	5.8 UJ	1.8	46.6	0.56	0.46 J	1930	9.3	4.5 J	7.6	11700	8.4	3960	102	0.011 U	7.4
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	mg/kg	12100	10900	7.8 UR	3.9	109	1.1	0.64 J	6810	16.9	9.5 J	20.1	20000	13.9	7630	324	0.026 U	15.1
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	mg/kg	15600	20800	18.4 UR	10	237	1.8	9.8	5010	37.1	13 J	61.4	30000	220	8060	983	1.8	27.8
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	mg/kg	1700	9270	5.5 UR	9	60.7	0.66	0.16 J	2660	11.2	5.2 J	9.5	17000	8.8	6700	276	0.009 U	9.4
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	mg/kg	11900	13000	15.1 UR	6.4	172	1.2 J	5.9	5200	24.8	10.4 J	44.9	22100	159	6250	777	0.76	20.5
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	mg/kg	262	6840	6.1 UR	8.3	93	0.67	0.044 J	12400	10.1	6 J	11.3	14800	7.9	6270	324	0.011 U	8.7
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	mg/kg	562	7810	5.9 UR	10.4	63.2	0.68	0.068 J	12300	11.1	5.8	12.2	16000	9.2	6760	341	0.005 J	9.7
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	mg/kg	16000	29900	17.9 UR	10.6	329	2.5	7.9	6090	51.4	18.5	89.7	43300	227	10900	1440	0.97	39.1
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	mg/kg	2210	5200	6.4 UR	5	143	0.44 J	0.53 U	40800	12.5	5 J	9.4	11600	5.5	6270	189	0.011 J	10.2
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	mg/kg	14700	19600	13.3 UR	5	208	1.9	2	4910	26.4	15.5	38.9	32100	68.3	7010	836	0.2 J	23.5
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	mg/kg	1490	7900	5.6 UR	2.7	62.3	0.7	0.088 J	2180	12.1	4.8	8.1	13500	6	3560	190	0.1 U	9.4
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	mg/kg	15000	24200	12.9 UJ	20.7	336	2.1	16.2	8800	31.9	16.7	64.6	34400	583	9890	1080	1	28.4
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	mg/kg	40400	10900	7.7 UJ	1.2 J	152	1.1	4.4	5710	19.3	6.6	28.2	14800	48.9	4460	181	0.15	11
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	mg/kg	300	6970	5.8 UR	6.3	65.9	0.48	0.48 U	2230	8.2	4.7 J	7.3	13800	5.2	4950	254	0.096 U	7.1
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	mg/kg	15500	25300	16.8 UR	10.9	298	2.1	5.3	5820	45	17.1	75.8	38600	173	9970	1530	0.63	36.4
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	mg/kg	353	8650	5.8 UR	10.8	60.1	0.6	0.48 U	4590	10.2	4.4 J	8.2	15900	6.8	6920	267	0.004 J	8.5
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	mg/kg	13600	21900	15.7 UR	8.2	255	1.9	2.8	5880	36.8	16.2	63.2	34900	103	9290	959	0.39	32.2
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	mg/kg	384	8130	5.5 UR	8.7	74.4	0.55	0.46 U	16200	9.7	4.2 J	8.9	15800	5.6	7980	276	0.1 U	9.2
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	mg/kg	12500	20500	15.1 UJ	11	219	1.8	7.2	5010	36.4	14.1	49.6	30600	190	8260	712	1	27.7
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	mg/kg	11900	23700	18.6 UJ	13.7	280	2.1	7.9	6180	48.4	17.6	75.2	40700	243	10600	956	1	37.8
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	mg/kg	8120	14100	12.5 UR	10.2	188	1.3	5.6	7770	28	11.4	38.5	22800	144	7510	529	0.77	23.9
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	mg/kg	1750	7110	7.3 UR	2.9	74.5	0.49 J	0.36 J	1590	13.2	5 J	10.1	12600	17	3280	336	0.037 J	11.8
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	mg/kg	2710	8050	6 UR	3.7	72.6	0.58	0.57	2120	16.3	6.3	12.2	15700	24.7	4000	392	0.02 J	14.8
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	mg/kg	657	7540	5.7 UR	4.5	70.7	0.56	0.086 U	2370	17.6	6.7	14.2	16400	8.3	4080	285	0.007 J	16.5

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	TOC	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	mg/kg	297	6820	5.9 UR	10	67.4	0.57	0.079 J	15000	14	6.1	12.1	16000	10	6450	302	0.1 U	12.4
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	mg/kg	8650	14500	12.5 UR	6.8	171	1.3	2.3	5170	30.2	12.1	49	26600	82.2	7720	762	0.39	26.2
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	mg/kg	16000	17900	13.3 UR	8.3	314	1.5	8.1	7740	36.6	13.4 J	56	28000	314	9400	749	0.86	30.1
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	mg/kg	402	6260	6 UR	2.6	58.5	0.68	0.052 J	3460	8.9	5.1 J	8.6	14400	6.4	5080	221	0.012 U	6.9
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	mg/kg	11600	18200	8.4 UR	7.8	200	1.6	4.7	4870	38.2	14.3	51.6	31200	214	8590	758	0.81	32.3
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	mg/kg	10500	24200	13 UR	10	293	2.2	4.8	6740	54.7	18.4	97.5	40900	208	12200	1000	1.2	43.2
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	mg/kg	10400	21100	10.9 UR	13	264	1.9	7.3	6460	50	16.3	77.2	35100	254	10600	1060	1.3	38.6
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	mg/kg	9280	23200	12.1 UR	12.8	365	2.1	9.4	11600	53	17.2	74	38300	363	13700	779	1.8	40.2
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	mg/kg	9850	14300	15.8 UR	6.8	184	1.3 J	3.5	3750	33.6	11.5 J	52.6	28100	148	7190	857	1	27.2
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	mg/kg	2190	9130	6.2 UR	6.2	90.7	1.5	0.28 J	1920	13.7	6.8 J	10.8	19700	7.9	2540	222	0.013 U	9.8
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	mg/kg	2240	11500	5.1 UR	0.76 U	64.4	1.2	0.2 J	4110	8.4	10	9.5	26600	9.6	6910	516	0.012 J	6.6
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	mg/kg	9950	23200	15.6 UR	8.4	283	2.1	4.8	6430	52.7	17.2	88.1	37900	185	11200	1130	1	39.7
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	mg/kg	755	4740	5.1 UR	1.8	45.8	0.47	0.37 J	1320	10.3	3.8 J	6.4	11500	13.2	2470	111	0.01 J	7.6
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	mg/kg	1050	14400	5.6 UJ	7.6	75.9	0.97	0.52	3960	8.6	9.3 J	9.4	27500	12	8210	610 J	0.1 UR	6.1
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	mg/kg	11000	16100	3.7 J	7.5	214	1.5	2.6	5150	35.3	13 J	65.5	29100	109	8230	758 J	0.39 J	29.3
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	mg/kg	340	6470	0.54 UJ	9.5	67.6	0.53	0.076 U	8110	12.8	7	12.9	15900	8.1	4540	307	0.005 J	13.5
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	mg/kg	6090	14000	1.8 UJ	6.8	164	1.2	1.2	4940	30	12.5	43.6	26700	54.3	7780	450	0.13 J	26.9
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	mg/kg	746	5600	1.2 UJ	0.89 U	39.2	0.61	0.086 U	1490	4.6	3.4 J	3	11400	6.8	2240	118	0.096 UR	2.8 J
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	mg/kg	353	6190	6.1 UR	3.2	44.3	0.5 J	0.11 J	1830	14.4	4.6 J	8.7 U	12300	5.7 J	3390	143	0.11 U	12.5
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	mg/kg	6160	15000	11.7 UR	9.2	187	1.4	1.3	5940	34.1	13.2	51.3	28600	71.5 J	8230	659	0.13 J	29.6
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	mg/kg	388	5990	0.27 UJ	5.4	54.9	0.4 J	0.43 U	6940	14.9	6.1	13	14500	5.7	3720	226	0.096 UR	15.2
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	mg/kg	1030	8330	6 UR	12.5	106	0.51	0.22 J	8020	37.1	10.2	20.6	21900	12.2 J	6420	409	0.019 J	32.2
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	mg/kg	9790	20800	1.5 UR	9.3	270	2	3.1	6670	48	16.2	86.6	36300	160	10600	1250	0.56	39
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	mg/kg	885	4670	6.3 UJ	1.9	39.3	0.44 J	0.53 U	2720	10.7	4.4 J	7.3	10200	4.5	2760	137	0.11 U	10
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	mg/kg	503	7400	0.6 UR	8.5	67.3	0.66	0.47 U	13100	12.6	5.8	9.8	16200	7.9	6810	348	0.11 U	11
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	mg/kg	3150	9450	9.2 UR	6.8	134	0.95	0.97	7840	23.1	9	24.4	19300	59.8	6430	523	0.19	21.3
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	mg/kg	604	7280	6 UR	11.2	65.6	0.62	0.5 U	14300	19.1	7.8	15.8	19600	10	6140	320	0.006 J	18.5
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	mg/kg	1270	12400	0.68 UR	5.8	156	1.2	0.56 U	16600	30.2	11.2	23.4	23600	11	8630	461	0.016 J	26.7
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	mg/kg	5040	13400	9.4 UR	5.1	163	1.3	0.37 J	9340	31.6	11.9	35.1	25200	36.4	8140	595	0.074 J	27.5
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	mg/kg	7490	13400	0.92 UR	5.9	171	1.3	1.5	8020	33.8	11.4	61.4	26900	98.8	8120	591	0.35	27.4
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	mg/kg	1080	9100	0.91 UJ	7.7	57.8	0.54	0.48 U	11300	38.9	10	28.2	22600	8.9	8070	391	0.012 J	35.5
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	mg/kg	1190	10400	0.37 UJ	6.3	83.6	0.62	0.51 U	11600	39.9	12	17	25000	8.7	7170	333	0.1 U	40.1
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	mg/kg	13900	15300	3 UJ	6.2	202	1.5	3.5	5890	38.5	12.1	70.2	26100	204	7240	582	1.1	28.5
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	mg/kg	321	6290	0.77 UJ	6.1	35.4	0.48	0.47 U	2640	21.3	6.4	12.2	16000	6.1	3910	186	0.096 U	17.7
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	mg/kg	465	6270 J	0.69 UJ	3.8	43.2	0.37 J	0.077 U	10100	17.3	5.6	12.8	14200	4.9	4790	219	0.005 J	18.4
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	mg/kg	14900	18000 J	2.8 J	8.3	244	1.5	2.5	7710	36.8	12.9 J	82.8	30200	133	9050	576	0.51	28.7
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	mg/kg	2740	7740 J	0.84 UJ	16.3	69.3	0.65	0.2 J	9910	24.8	10.1	19.3	19500	11.1	5920	353	0.014 J	23
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	mg/kg	1320	7590	6.7 UR	3.3	63.1	0.57	0.35 J	4070	17.7	6.5	12.1	15300	14.5	3950	204	0.013 J	15.9
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	mg/kg	9950	12000	12.8 UR	7.3	166	0.98 J	4.2	5160	31.2	9.7 J	50.8	21800	192	6670	536	1.1	23.2
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	mg/kg	1080	7780 J	1.2 UJ	2.4	72.9	0.74	0.26 J	3270	16.6	6	11.1	14600	9.6	3130	183	0.007 J	12.3
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	mg/kg	7180	10500	6.9 UR	3.8	85.9	0.87	1.8	3240	30.3	9.5	20.1	18400	41.5	5040	148	0.063 J	25.1
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	mg/kg	11100	15900	17.2 UR	5.9	213	1.3 J	5.1	7170	38.5	11.4 J	67.6	26300	249	8170	467	1.8	25.6
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	mg/kg	800	8080	6.4 UR	4.2	71.9	0.59	0.12 J	6380	22.9	7.8	18.4	17900	6	5290	333	0.017 J	20.1
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	mg/kg	590	3560	0.49 UR	2.6 U	30.4	0.25 J	0.14 J	3300	8.4	3.3 J	7.6	7690	3	2560	126	0.1 U	7.7
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	mg/kg	16100	13400	15.2 UR	4.7	228	1.1 J	2.3	8340	29.8	10.2 J	74	24500	113	8170	482	0.5	22.8
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	mg/kg	380	7310	1.2 UR	7.4	40.4	0.47 J	0.12 J	11000	20.3	7.3	19.8	16800	7.9	5360	245	0.11 U	22.2
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	mg/kg	16100	18200	4 J	9.5	398	1.7 J	4.3	13900	41.5	13.6	126	31200	233	11900	572	0.53 J	29.4
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	mg/kg	16400	23900	4.6 J	20.2	391	2	7.3	9610	52.8	16.7	117	41300	362	12100	1150	1.9	38
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	mg/kg	16200	19300	4.2 J	11.9	357	1.7 J	8	9740	44.2	14	96.6	31700	379	10600	721	2.4 J	32.2
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	mg/kg	19500	21500	6.4 J	11	391	1.9 J	5.7	10800	50.8	15.8	152	36300	310	11200	655	0.88 J	34.8
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	mg/kg	16700	20100	4.2 J	12.2	350	1.8 J	4.9	10500	45.9	14.5	128	33300	274	10800	820	1.4 J	31.3
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	mg/kg	5140	10400	2 J	3.9	124	1 J	0.69 J	6400	22.8	8.9	25	18800	28	6200	469	0.093 J	19.3
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	mg/kg	526	6210	0.46 UR	2.3	75.4	0.66 J	0.14 J	18300	15.5	6.1	11.6	13100	4.6	4700	258	0.11 U	12.6
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	mg/kg	3140	12200	0.4 UJ	3.3	150 J	1	0.36 J	11000	26.2 J	10.7	22.3	19400	12.7	7510	529	0.006 J	24.9
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	mg/kg	16500	15200	3.5 UJ	6.7	359 J	1.4	3.7	11400	35.4 J	11.4	115	26300	194	9710	517	0.69	25
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	mg/kg	1390	5800	0.65 J	2.3	61.1	0.51	0.16 J	4550	12.8	4.8	11.2	10400	4.5	3460	225	0.11 U	11.3

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	TOC	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	mg/kg	16300	16300	4 J	12.3	397	1.4	5.2	12500	39.8	12.8	142	30500	291	11100	546	1.2	28.5
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	mg/kg	493	5880	0.63 UJ	3.4	48.8	0.32 J	0.06 J	9870	12.8	4.6 J	13.4	12200	3.8	4310	265	0.11 U	12.7
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	mg/kg	1810 J	7590	7.2 UR	5.4	91	0.66	0.24 J	14500	21.5	8.8	18.4	16900	7.9	6670	336	0.13 U	20.6
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	mg/kg	16700	15000	3.8 J	9.5	321	1.3 J	5.9	9460	39.2	11.3 J	116	28000	329	9240	464	1.5	26.2
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	mg/kg	1680	6440	7.2 UR	4.6	82	0.59 J	0.23 J	12100	18.1	8.2	16.1	14900	7.7	5490	329	0.13 U	17.8
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	mg/kg	376 UJ	6000	6.2 UR	6.4	36.3	0.32 J	0.2 J	12400	14.8	5.6	14.7	13500	4.1	5530	214	0.1 U	16.2
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	mg/kg	13800 J	13400	3.4 J	10.7	322	1.2	5.6	7780	34.9	11.5	124	25600	296	8340	539	1.3	25.4
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	mg/kg	632 J	3420	6.4 UR	1.5	35.2	0.26 J	0.15 J	1680	8.3	2.8 J	5	6680	7	2160	106	0.1 U	7.4
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	mg/kg	15500 J	12400	2.8 UR	8.6	619	1.1	4.4	25000	30.5	10.9	141	29000	218	16300	496	0.35	23.7
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	mg/kg	25900	13500	2.1 J	8.6	401	1.2	3.5	14200	31.8	11.1 J	100	27500	152	11700	439	0.3	25.1
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	mg/kg	464	6510	0.71 UJ	2	71.5	0.56	0.057 J	2860	13	7	10	11600	6.6	3630	291	0.1 U	12.3
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	mg/kg	931	7180	6.2 UJ	4.8	81.8	0.62	0.24 J	13100	19.4	8.1	15.9	16300	8.3	5850	339	0.007 J	18
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	mg/kg	26400	10700	2 J	5.7	271	1 J	2.4	11100	26.4	9.2 J	73.5	22100	96.4	9040	354	0.29	20.8
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	mg/kg	490	4320	5.8 UJ	1.7	48	0.34 J	0.26 J	1830	9.7	3.2 J	7.5	8020	13.7	2410	123	0.01 J	7.3
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	mg/kg	24100 J	11800	12.6 UR	8	348	1.2	2.6	13700	30.9	10 J	77.5	23800	99.9	10300	373	0.14 J	20.7
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	mg/kg	1000 J	3160	6.8 UR	1.2	29.2	0.28 J	0.13 J	5970	5.5	2.5 J	4.5	5550	2.6	2390	137	0.12 U	4.1 J
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	mg/kg	2050	5630	6.5 UR	1.8	56.5	0.34 J	0.29 J	8620	9.8	4.1 J	13.4	9350	9.6	3400	171	0.005 J	8.1
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	mg/kg	2460	8360	5.2 J	8.5	400	0.62	1.8	20800	30.6	11.7	480	57300	184	5800	1160	0.037 J	8.7
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	mg/kg	478	2530	5.8 UR	0.95 J	29.6	0.22 J	0.14 J	2000	5.2	2.8 J	5.8	5140	5.4	1760	91.9	0.11 U	4.9
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	mg/kg	733	18300	11.6 J	19.7	836	1.2	2.3	42600	48.1	23.8	1150	174000	954	5930	3470	0.014 J	6.1
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	mg/kg	4730	7120	7.6 UR	10	853	0.64	4.7	34900	17.8	5.1 J	42.4	21000	254	21200	364	0.62	17.2
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	mg/kg	8700	12600	1.8 J	26.2	95.1	0.45 J	1.6	3960	68.5	15.5	52.8	30100	59.9	9770	534	0.14	52.8
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	mg/kg	2110	13100	12 J	17.8	567	0.66	1.3	27200	39.3	14.7	720	106000	596	4880	2090	0.021 J	8.4
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	mg/kg	1840	7060	7 UJ	2.3	198	0.63	0.68	10100	16.7	5.8	14.5	13800	49.4	7290	224	0.11 J	12.7
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	mg/kg	11300	9500 J	4.8 J	10	432	0.81	3.6	17900	25.2	9.4	151	29400	188	11800	418	0.37	18.2
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	mg/kg	6320	5880	2.9 J	6.2	213	0.44 J	1.6	11300	16.7	5.8 J	53.1	19000 J	77.3	8110	267	0.13 J	12.6
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	mg/kg	2680	15800	13.6 J	21.3	666	0.99 J	1.2	36100	44	19.9	819	111000 J	412	7390	2260	0.047 J	9.2
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	mg/kg	22100	13900	2.6 J	4.5	160	1.3 J	0.99	6550	29.9	10.2	37.8	24400 J	38.5	7370	357	0.085 J	22
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	mg/kg	32800	12300	2.2 J	3.9	137	1.2 J	0.95 J	6250	28	9.2 J	34	21900 J	31.1	6630	307	0.079 J	20
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	mg/kg	6080	7560	0.72 UR	8.8	81.8	0.53 J	0.54	5160	18	6.1	20	18900	35.9	5460	205	0.068 J	18.4
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	mg/kg	4310	16200	21.8 J	21.1	743	1.1 J	1	39500	51.7	22.1	922	120000 J	329	8440	2230	0.091 J	11.4
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	mg/kg	1970	23600	6.9 UR	4.2 U	319	2.4	0.57 U	15600	52.8	20.9	46.6	39000	23.6	14900	1060	0.038 J	48.8
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	mg/kg	11700 J	9010	2.4 J	9.4	161	0.75 J	1.8	8780	21.5	8.2	48.8	20900 J	84.4	7470	347	0.2	18.7
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	mg/kg	4080	10700	20.5 J	18.9	727	0.92 J	2.3	30900	46.5	18.1	712	80800 J	302	9330	1600	0.15 J	12.9
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	mg/kg	21700	10900	1.4 UR	7.2	176	0.68 J	4.5	76500	25.2	7.7	39.9	19000 J	171	6590	261	0.46	20
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	mg/kg	3620	16700 J	38.8 J	26.7	1270	1.2	1.5	50300	88.2	32	1600	170000	291	7440	3030	0.1 J	12.4
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	mg/kg	7480	11700	1.5 UR	5.3	120	0.69 J	1.1	2560	14.3	5.2 J	13.9	15400 J	85.3	3000	214	0.11 J	10.8
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	mg/kg	29300	11600 J	2.3 J	5.4	248	0.96	3.3	10400	24.9	8.9	70.4	22400	127	8330	298	0.41	20.5
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	mg/kg	16800	10400 J	2.7 J	8.9	483	0.97	5.6	17300	25.9	8.7	105	24000	275	12300	315	1.1	20.9
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	mg/kg	5390	6470	6.6 UR	4.2	95	0.46 J	0.46 J	43700	14.1	5.7	14.3	12200	20.3	4400	269	0.024 J	12.9
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	mg/kg	5970	7150	2.5 UR	12.6	853	0.7 J	6.7	30400	21.2	5.9	61.3	24000	335	19800	326	0.59 J	19.8
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	mg/kg	10500	6390	2.4 UR	7.5	272	0.66 J	2.5	17800	20.8	7.6 J	166	24700	98.7	9860	441	0.19 J	11.7
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	mg/kg	17000	9520	7.7 UR	5.4	321	0.95	2.4	10700	26	9.7	84.1	20600	114	9140	340	0.29	20.3
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	mg/kg	1990	6240	1.3 UR	4.3	93.8	0.44 J	0.76	5260	15.7	6.4	31.8	13800	36.6	5870	272	0.032 J	15
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	mg/kg	396	22400	47.6 J	49.5	2100	1.6 J	0.94	75000	150	59.3	2870	248000	253	7080	4660	0.11 U	19.5
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	mg/kg	5300	6660	4.2 J	10.9	441	0.67 J	4.7	27100	22	8.1	127	24700	216	17200	391	0.37 J	16.8
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	mg/kg	24400	9310	3.7 J	9.2	498	0.97	4.8	20100	25.5	9	113	23200	195	13100	382	0.49	20.1
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	mg/kg	494	21200	39.9 J	53.2	2130	1.5	0.12 J	72600	150	66.9	2930	218000	352	5870	4860	0.12 U	15.7
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	mg/kg	37600	11300	4.2 J	9.8	314	1.2	4.2	12600	28.2	10.1	85.1	25700	171	9930	459	0.55	23
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	mg/kg	754	9080	5.9 J	13.4	302	0.59	2.2	22400	20.7	9.7	339	50500	224	7270	1040	0.18	7.7
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	mg/kg	54500	6860	4.2 J	12.9	299	0.7	3.3	7940	19.9	5.9 J	132	24900	339	4460	267	0.8	14
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	mg/kg	887	20500	30.3 J	24.9	2100 J	1.5	2.5	66600	147 J	62.9	3030	214000	250	5290	4730	0.007 J	15.6
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	mg/kg	2020	4070	1.7 UJ	2.3	80.5 J	0.34 J	0.61	10700	9.8 J	4.2 J	31.6	9880	32.2	4450	205	0.023 J	8.1
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	mg/kg	3850	5580	1.2 UJ	4	209 J	0.48 J	1.9	12500	17 J	5.2 J	45.7	15000	142	7520	147	0.13	11.8
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	mg/kg	7810 J	6670	16.2 J	10.6	386	0.61 J	2	20800	28.5	12.4	369	36500	130	9930	698	0.2	12.7
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	mg/kg	443	17100	53.5 J	27.4	1660	1.3	1.1	57100	120	61.2	2240	180000	302	5920	3880	0.12 U	13.2

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	TOC	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	mg/kg	10500 J	6140	18.4 J	9.4	370	0.54 J	2.6	19400	29.6	13.8	398	35600	155	8220	729	0.094 J	10.5
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	mg/kg	5810	5630	4.5 J	8.6	361	0.51 J	3.6	24900	22.1	9.9	236	27500	166	12200	584	0.24	11.9
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	mg/kg	3680 J	12100	53.9 J	20.3	1180	0.67	0.8	39700	84.5	47.2	1420	112000	195	5480	2380	0.06 J	11.3
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	mg/kg	948	8100	35.4 J	12.2	628	0.67	1.5	26000	49	23.6	747	64100	147	7340	1340	0.055 J	10.4
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	mg/kg	1250	18900	55.7 J	15.4	1920	1.7	0.55 U	64200	141	70.1	2470	203000	264	6020	4190	0.008 J	14.5
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	mg/kg	1750	5340	5.4 J	4.5 U	210	0.58	0.69	12000	18.7	7.8	181	27700	126	5670	550	0.23	9.5
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	mg/kg	2150	4970	1.1 UR	2.8 U	94.6	0.49 J	0.52	5310	12.9	4.7 J	26	12000	33.6	4360	208	0.2	9.4
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	mg/kg	4030	5360	8.9 J	8.9	435	0.51 J	2.2	21100	20.7	7.6	202	27300 J	146	8040	443	0.68	12.4
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	mg/kg	6440 J	6520	5 J	11	671	0.65 J	5.2	42600	20	7.1	136	28900 J	260	23000	448	0.27	15.3
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	mg/kg	3170	17700	37.8 J	32.6	1270	1.2 J	0.44 J	53900	97.4	40.6	1710	159000 J	476	7410	3100	0.099 J	12.5
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	mg/kg	1820	10500	38.3 J	17.5	697	0.74 J	0.85	24700	54.5	26.9	850	80800 J	165	5240	1700	0.045 J	12.8
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	mg/kg	4340 J	5620	1.8 J	5.8	201	0.47 J	1.8	11600	15.5	4.8 J	45.9	18500 J	122	7980	212	0.26	11.8
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	mg/kg	1790	13200 J	46.3 J	25.2	1200	0.99	0.91	43000	88.1	42.3	1530	143000	204	5260	2480	0.052 J	12.4
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	mg/kg	4700	5950 J	9 J	12.8	275	0.49 J	7.5	51000	20.2	7	248	35100	289	18300	690	0.4	10.9
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	mg/kg	2470	14000 J	49.7 J	74.4	756	0.96	3.2	39500	60.7	35	1430	149000	2760	6820	2430	0.18	14.1
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	mg/kg	4000	6970	29.1 J	15.9	591	0.6 J	1.8	24100	42.3	21.6	650	53400	134	7260	1130	0.087 J	10
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	mg/kg	5640	7530	5.5 J	24.8	300	0.68 J	1.7	16200	45.2	9	242	54800	450	7780	641	0.45 J	15.3
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	mg/kg	3760	10600	36.2 J	25.6	904	0.84 J	1.2	32800	64.9	32.7	1100	89700	192	5820	1800	0.057 J	12.1
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	mg/kg	3420	11500	42.9 J	30.8	1010	0.93	1.2	36300	74.5	34.1	1270	109000	196	6180	2000	0.075 J	11.7
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	mg/kg	324	21800	39.2 J	55.1	2280	1.6	0.42 J	74400	156	75	3020	231000	259	5850	4920	0.005 J	15.7
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	mg/kg	2120	6120	20.2 J	9.5	345	0.57 J	1.3	19200	26.8	11.9	281	30900	107	8930	600	0.057 J	12.4
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	mg/kg	3380	9880	23.2 J	14.7	846 J	0.84	3	34000	64.8 J	31.9	1050	86400	273	8110	1630	0.12 J	13
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	mg/kg	6380	5460	8.4 J	5.9	263	0.53 J	1.9	15800	19.8	7	147	20400	119	8720	302	0.26	10.3
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	mg/kg	4380	5870	21.8 J	9.9	353	0.47 J	1.9	22800	29.2	11.4	449	42100	172	8380	805	0.095 J	9
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	mg/kg	433	19700	54.9 J	29.1	1880	1.4	2.9	64100	131	57.4	2380	198000	262	5640	3770	0.011 J	12.3
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	mg/kg	996	12000	5.6 UR	6	125	1.3	0.23 J	8370	14	11	11.8	24900	11.1	8090	457	0.017 J	12.7
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	mg/kg	641	4680	7.4 UR	3 U	35.5	0.35 J	0.62 U	5370	6.4	2.7 J	6 U	9830	3.9 J	4000	138	0.006 J	5.7
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	mg/kg	4130	10500	6 UR	4.2	74.2	0.86	0.67	2690	13.5	6.3	11.5	17800	16.8	5940	243	0.075 J	11.3
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	mg/kg	2730	8020	8 UR	3.1 U	56.8	0.73	0.28 J	2290	12.6	5.4 J	7.9 U	15300	10.4 J	4110	217	0.013 J	10
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	mg/kg	1210	6140	7.3 UR	4.9	47.8	0.51 J	0.14 J	4510	10.7	4.5 J	8.5 U	12100	6.1 J	4240	225	0.009 J	9.5
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	mg/kg	1190	9630	6.1 UR	13.7	68.7	0.77	0.16 J	15300	12	5.7	11.6	17800	10.9	9140	413	0.019 J	10
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	mg/kg	1210	5870	6.9 UR	7.1	38.7	0.46 J	0.058 J	8050	7.2	3.6 J	8.7	12400	7.4	4890	257	0.007 J	7
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	mg/kg	658	10400	6.3 UR	13.5	97.2	0.99	0.14 J	19400	14	9.7	16.5	24800	12.7 J	7330	458	0.008 J	13.4
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	mg/kg	366	5620	7 UR	3.9	41.1	0.57 J	0.58 U	11300	8.3	4.4 J	7 U	12400	5.7 J	4700	214	0.006 J	6.4
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	mg/kg	2110	11200	7 UR	9.3	120	1	0.35 J	4000	21.3	13.4	17.8	19900	17.9 J	5180	489	0.018 J	21.7
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	mg/kg	14100	13500	11.3 UR	3.4	128	1.3	2.4	3770	24.1	10.3	28	20500	67.7 J	5230	379	0.34	20.5
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	mg/kg	7160	10100	7.3 UR	4.1	94.9	0.91	2.1	2620	17.9	7.7	19.9	16900	82.4 J	4010	314	0.23	14.8
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	mg/kg	1380	14000	7.2 UR	14.1	162	1.2	0.15 J	10200	25.9	15	22.6	25900	17.7 J	7260	641	0.01 J	26.4
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	mg/kg	2360	13300	7.7 UR	5	149	1.2	0.41 J	4990	30.5	12.5	23.1	23400	19.4 J	7030	563	0.015 J	27.4
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	mg/kg	1360	7830	1 UJ	3	76.6	0.77	0.32 J	2430	16.6	7.3	11.3	13700	21.1	3280	162	0.016 J	14.4
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	mg/kg	918	10400	7.6 UJ	3.7	122	1 J	0.2 J	11300	24.3	9.8	22.3	20700	10.5 J	6760	501	0.012 J	22.3
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	mg/kg	5330	11800	8.6 UJ	2.7	139	1.2 J	0.4 J	14800	29.7	10.9	23.7	21200	12 J	8570	466	0.012 J	25.4
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	mg/kg	1410	6660	0.35 J	1.6	60.1	0.67 J	0.27 J	4280	16.9	5.6 J	11.8	13500	9.7 J	4030	268	0.012 J	13.9
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	mg/kg	2710	9870	7.6 UJ	2.4	83.5	0.78 J	0.26 J	8360	23.8	9.3	17.9	21700	11.7 J	5730	343	0.022 J	25.2
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	mg/kg	644	5470	6.9 UJ	1.3	49.6	0.46 J	0.11 J	2390	9.1	3.6 J	10.8	10400	6.6 J	3300	161	0.01 J	10.6
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	mg/kg	3870	7540	7.4 UJ	2.1	78.3	0.8	0.13 J	4870	16.9	6.7	14.7	15000	12.3	4020	319	0.034 J	15.1
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	mg/kg	391	3460	0.62 UJ	0.65 J	30.5	0.34 J	0.55 U	1960	6.8	2.6 J	5.3	6640	3.9	1980	103	0.14 U	6.3
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	mg/kg	21700	14000	3.5 J	7.9	546	1.5	5.3	16000	34.9	11.6	164	29800	309	11600	417	0.87	25.3
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	mg/kg	8000	10000	1.4 UJ	4.9	141	1.1	2	5470	22.8	8.2	25.9	18900	72.4	5800	433	0.23	19.8
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	mg/kg	19600	7390	3.8 UJ	4.5	445	0.97 J	3.8	15000	21.3	6.7 J	78.8	18800	197	10400	317	0.66	15.5
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	mg/kg	29100	10700	14 UJ	1.4 J	102	1.3 J	0.42 J	5300	24.9	7.7 J	26.2	19500	14.7 J	5130	276	0.044 J	15.9
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	mg/kg	14700	7960	1.4 J	5.8	526	0.8 J	4.8	37600	20.7	7.3 J	106	26300	192 J	21800	380	0.43	16.4
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	mg/kg	8710	7810	10.6 UJ	6	291	0.92	3.6	9510	22.7	8.2 J	80.3	19100	183	7830	294 J	0.65 J	18.4
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	mg/kg	3750	5030	1.5 UJ	2.3	109	0.44 J	0.53 J	6940	12.6	4.8 J	22.2	13600	24.5	4530	195	0.038 J	12
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	mg/kg	14400	6410	7 J	4.4	368	0.69 J	2.7	18200	20.3	9.1	195	34900	203	10600	558	0.39 J	12.2

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	TOC	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	mg/kg	10700	9990	1.3 J	3.1	99.4	1 J	0.14 J	4730	22.1	9.4	21	19300	16 J	5770	358	0.017 J	21.7
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	mg/kg	6350	12300	24.6 J	2.1 U	769	1.1	2.2	34300	49	20.7	969	114000	267	7940	1980	0.11 J	10.6
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	mg/kg	6600	6040	5.6 J	9.1	371	0.61 J	3	27200	20.1	7.3	126	24900	170	14500	374	0.37 J	12.6
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	mg/kg	2630	3080	9.9 J	2	172	0.32 J	1.1	11100	14.5	6.1 J	183	16200	68.4	5090	371 J	0.06 J	6.3
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	mg/kg	3830	9510	17.4 J	6.6	489	0.88	2.9	29700	38.6	20 J	641	88400	1390	5860	2490 J	0.083 J	9.5
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	mg/kg	6280	6390	5.1 J	4.8	540	0.71	4.3	35300	20.7	7.5	129	27400	214	20700	378	0.33 J	15.1
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	mg/kg	1440	14600	62.5 J	3.6	1490	1.3	1.2	47100	111	59.4	1920	172000	163	5270	3050	0.22 J	11.6
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	mg/kg	3250	21100	25.2 J	8.5	1140	1.5	0.27 J	58300	100	38.1	1630	207000	215	6810	3410	0.12 UR	9.3
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	mg/kg	5690	7030	25.4 J	7.9	327	0.7 J	1.8	18000	29.1	12.2	367	35700	114	8130	570	0.3 J	12
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	mg/kg	5430	5740	6.2 J	5.2	268	0.73 J	2	17800	21.5	8.3	181	25200	118 J	8440	429	0.14 J	11
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	mg/kg	4310	6590	24.1 J	8.2	437	0.61 J	2.1	21900	33.1	14.3	458	44600	166 J	8340	819	0.17	9.9
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	mg/kg	896	6080	19 J	6.3	516	0.6 J	3.4	41700	29.6	14.3	399	39200	182 J	17700	745	0.16	10.6
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	mg/kg	1430	12100	41.7 J	8.2	966	0.99 J	0.65	34500	72.3	34.9	1240	99700	221 J	4630	2080	0.052 J	10.9
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	mg/kg	7020	7370	20.7 J	8.7	406	0.72 J	2	18800	28.5	10.1	356	42500	201 J	7950	616	0.17	11.1
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	mg/kg	2460	5560	14.1 J	4.7	398	0.71	1.7	18100	28.6	11.8	325	34200	142	8140	613	0.12 J	9.9
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	mg/kg	4000	5310	21.2 J	6.9	415	0.54 J	1.5	20000	26.4	13.6	390	35800	141	7440	718	0.15	9.7
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	mg/kg	1120	12300	29.6 J	10.7	1200	1.2	0.62 U	38400	89.3	50.1	1540	124000	183	3960	2410	0.048 J	11.2

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	mg/kg	1230	3.6 UJ	1 UJ	73.5 J	2.6 U	20.6 U	13.9	39.7
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	mg/kg	1470	3.6 UJ	1 UJ	53.8 J	2.6 U	5.2 J	14	54.6
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	mg/kg	1610	3.6 UJ	1 UJ	65.7 J	2.6 U	20.8 U	14.8	48
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	mg/kg	1080	3.5 UR	1 UJ	49.3 J	2.5 U	20.2 U	14	36.9
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	mg/kg	1410	3.4 UR	0.96 UJ	57.7 J	2.4 U	4.6 J	17.2	44.2
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	mg/kg	1640	3.5 UR	1 UJ	74.7 J	2.5 U	5.4 J	19.5	39.2
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	mg/kg	1350	3.3 UR	0.93 UJ	97.6 J	2.3 U	6.9 J	13.4	35.5
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	mg/kg	1410	3.4 UR	0.97 UJ	97.2 J	2.4 U	6.4 J	10.8	30.1
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	mg/kg	1140	3.3 UR	0.94 UJ	57.2 J	2.3 U	6.3 J	8.4	26.5
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	mg/kg	519	3.5 UR	1 UJ	87.7 J	2.5 U	20.2 U	16.7	47.4
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	mg/kg	719	3.7 UR	1.1 UJ	97.8 J	2.7 U	9.8 U	16.2	33
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	mg/kg	317 J	3.4 UR	0.97 UJ	58.3 J	2.4 U	19.4 U	8.7	21.3
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	mg/kg	1160	4 UR	1.1 UJ	129 J	2.9 U	22.8 U	26.3	48.9
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	mg/kg	2020	4.3 UR	1.2 UJ	173 J	3.1 U	24.6 U	32.6	118
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	mg/kg	1220	4.2 UR	1.2 UJ	115 J	3 U	23.9 U	27.2	158
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	mg/kg	1200	4.3 UR	1.2 UJ	94 J	3.1 U	24.4 U	21.9	220
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	mg/kg	1210	3.7 UR	1.1 U	147 J	2.7 UJ	21.4 UJ	26.6	90.3
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	mg/kg	2190	4.3 UR	1.2 U	245 J	3.1 UJ	24.6 UJ	35.6	295
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	mg/kg	749	3.1 UR	0.89 UJ	134 J	2.2 U	17.7 U	21.9	91.8
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	mg/kg	843	3.6 UR	1 UJ	131 J	2.6 U	8.4 J	19.6	67.2
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	mg/kg	775	3.9 UR	1.1 UJ	155 J	2.8 U	22.1 U	21.7	97.1
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	mg/kg	483	3 UR	0.86 UJ	60.4 J	2.2 U	17.3 U	9.1	53.8
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	mg/kg	1120	4 UR	1.2 UJ	125 J	2.9 U	23.1 U	19.8	391
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	mg/kg	2260	5.3 UR	1.5 UJ	242 J	3.8 U	30.2 U	29	700
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	mg/kg	1070	3.6 U	1 U	95.9 J	2.6 U	7.5 J	18.6	186 J
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	mg/kg	1020	4.3 J	1.3 U	134 J	3.2 U	6.7 J	28.5	620 J
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	mg/kg	1010	2.3 J	1.4 U	86.4 J	3.4 U	27.1 U	24.4	915 J
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	mg/kg	624	1.1 J	1 U	88.5 J	2.6 U	5.7 J	27.9	352 J
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	mg/kg	1220	2.7 J	1.4 U	134 J	3.4 U	11.2 J	27.4	1060 J
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	mg/kg	1190	3 J	1.2 U	170 J	3.1 U	14.2 J	26.9	1700 J
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	mg/kg	2030	3.7 UR	1 UJ	811	1.3 J	21 UJ	27.2	6560
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	mg/kg	2300	3.4 UR	0.97 UJ	1300	1.1 J	19.4 UJ	29.2	8410
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	mg/kg	2270	3.6 UR	1 UJ	1200	0.83 J	20.4 UJ	28.2	8700
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	mg/kg	3750	3.4 U	0.97 U	1840	2.4 U	81.6	39.8	16900 J
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	mg/kg	3610	3.3 UR	0.93 UJ	1770	2.3 UJ	84.3 J	38.3	15200
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	mg/kg	3500	3.7 UR	1.1 UJ	1300	2.7 UJ	64.8 J	36.6	14900
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	mg/kg	1240	3.5 UR	1 UJ	74.9 J	2.5 U	20.1 U	14.3	149
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	mg/kg	1360	3.9 UR	1.1 UJ	93.6 J	2.8 U	22.1 U	18.5	116
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	mg/kg	1640	3.7 UR	1.1 UJ	111 J	2.7 U	21.3 U	21.1	94.7
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	mg/kg	2000	4 UR	1.1 UJ	108 J	2.9 U	22.9 U	21.4	143
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	mg/kg	1850	3.3 UR	0.93 UJ	91.6 J	2.3 U	18.6 U	21.5	129
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	mg/kg	1670	3.8 UR	1.1 UJ	109 J	2.7 U	21.5 U	20.2	156
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	mg/kg	1540	4 UR	1.2 UJ	142 J	2.9 U	23.1 U	19.4	185
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	mg/kg	3060	3.9 UR	1.1 UJ	122 J	2.8 U	6.1 J	26.5	149
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	mg/kg	2030	3.6 UR	1 UJ	167 J	2.5 U	12.9 J	23	366
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	mg/kg	558	3.5 UR	1 U	90.5 U	2.5 U	20 UJ	26.8	32.9
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	mg/kg	585	0.63 R	0.91 U	96.9 U	2.3 U	18.2 UJ	16.9	36
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	mg/kg	523	3.1 UR	0.89 U	103 U	2.2 U	17.8 UJ	18.5	33
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	mg/kg	657	2.9 UR	0.83 U	124 U	2.1 U	16.6 UJ	20.9	42
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	mg/kg	585	3.7 UR	1.1 U	109 U	2.7 U	21.2 UJ	19.7	39.9
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	mg/kg	631	2.8 UR	0.8 U	111 U	2 U	16 UJ	20.5	26.7
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	mg/kg	3160	4.3 UR	1.2 U	437 J	3.1 U	24.7 UJ	49.7	74.3
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	mg/kg	503	0.85 R	0.9 U	98.1 U	2.2 U	17.9 UJ	20	40.2
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	mg/kg	1750	3.5 UR	0.99 U	251 J	2.5 U	19.9 UJ	31.3	51.6

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	mg/kg	1200	3.9 UJ	1.1 UJ	272 J	2.8 U	22.3 U	22	2220
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	mg/kg	3500	3.6 UJ	1 UJ	1890	2.6 U	20.6 U	36.7	14600
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	mg/kg	1130	3.9 UJ	1.1 UJ	139 J	2.8 U	22.4 U	24.9	1020
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	mg/kg	1850	3.3 UJ	0.95 UJ	678	2.4 U	19 U	26.8	5900
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	mg/kg	4150	3.5 UJ	1 UJ	2470	2.5 U	20.2 U	41.2	17100
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	mg/kg	1210	3.7 UJ	1.1 UJ	294 J	2.7 U	21.3 U	25.5	2630
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	mg/kg	1210	3.8 UJ	1.1 UJ	249 J	2.7 U	21.8 U	20.1	2760
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	mg/kg	4730	3.3 UJ	0.95 UJ	2780	2.4 U	19.1 U	42.6	22200
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	mg/kg	1290	3.8 UJ	1.1 UJ	361 J	2.7 U	21.8 U	22.5	3910
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	mg/kg	1870	4.4 UJ	1.2 UJ	120 J	3.1 U	5.1 J	27.6	281
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	mg/kg	1220	4.4	1.1 UJ	394 J	2.7 U	21.3 U	20	4690
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	mg/kg	1500	6.4	1.3 UJ	460 J	3.3 U	26.7 U	20	4610
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	mg/kg	3650	4.7 J	2.5 UJ	534 J	6.3 U	50.5 U	46	1210
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	mg/kg	3450	2.5 J	1.4 UJ	491 J	3.5 U	28.2 U	28.5	80.5
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	mg/kg	3060	2.6 J	1.1 UR	319 J	2.6 UJ	21.1 U	28.6	48.3
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	mg/kg	1620	2.4 J	1 UJ	77.8 J	2.5 U	20.2 U	12.8	38.4
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	mg/kg	1730	2.7 J	1 UJ	66 J	2.6 U	21 U	14.5	37.5
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	mg/kg	1570	2.3 J	0.86 UJ	62.7 J	2.1 U	17.2 U	14	35.3
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	mg/kg	1810	3 J	1.1 UJ	71.4 J	2.6 U	21.1 U	15.3	39.8
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	mg/kg	1760	2.3 J	0.95 UJ	62.2 J	2.4 U	18.9 U	13.7	35.5
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	mg/kg	1150	2.5 J	1 UJ	68.8 J	2.6 U	20.5 U	12.6	30
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	mg/kg	3160	4.9 J	2.6 UJ	300 J	6.6 U	52.9 UJ	46.2	635 J
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	mg/kg	2780	3.7 J	2.1 UJ	215 J	5.2 U	41.7 UJ	37.8	927 J
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	mg/kg	1460	0.93 J	1.2 UJ	114 J	2.9 U	23.1 U	22.1	46.1
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	mg/kg	1440	1.6 J	1.2 UJ	111 J	3 U	24.3 U	19.1	37.1
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	mg/kg	3020	6.7	1.6 UJ	330 J	4 U	32 U	46	1230
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	mg/kg	1560	2 U	0.98 UJ	162 J	2.5 U	19.6 U	23.3	55.2
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	mg/kg	1410	2.7 U	1.1 UJ	165 J	2.7 U	21.3 U	24.9	30.9
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	mg/kg	1470	2 U	1 UJ	177 J	2.6 U	21 U	26.4	35.8
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	mg/kg	1560	3 U	1 UJ	133 J	2.5 U	20 U	21.3	32.8
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	mg/kg	1750	3.7 J	1.3 UR	261 J	3.2 U	25.5 UJ	33.9	457
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	mg/kg	1440	2.8 J	1.2 UR	192 J	2.9 U	23.2 UJ	27.9	439
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	mg/kg	1720	3.4 J	0.99 UR	237 J	2.5 U	19.8 UJ	33.6	545
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	mg/kg	1690	2.5 J	1.2 UR	259 J	3 U	23.9 UJ	33.5	193
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	mg/kg	1430	2.4 J	1 UR	213 J	2.5 U	20 UJ	30.8	75.3
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	mg/kg	2860	5 J	2.2 UR	514 J	5.6 U	44.4 UJ	47.5	1040
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	mg/kg	2390	7.4	1.7 UR	420 J	4.3 U	34.3 UJ	42.8	1710
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	mg/kg	2820	6.5	1.6 UR	427 J	4 U	32.3 UJ	42.5	1890
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	mg/kg	3250	7.3	1.8 UR	585 J	4.5 U	36.1 UJ	45.7	2120
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	mg/kg	3280	7.5	1.6 UR	500 J	4 U	32.3 UJ	49.4	1960
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	mg/kg	2370	7.8 J	2.4 UJ	296 J	6 U	47.6 U	43	1120
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	mg/kg	2260	7.2	1.9 UJ	260 U	4.7 U	37.8 U	42.1	981
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	mg/kg	1360	5.7 J	1.7 UJ	219 U	4.2 U	33.6 U	26.8	1450
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	mg/kg	1950	4.5	1.2 UJ	894	3 U	23.8 U	28.7	4020
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	mg/kg	1400	9.5	1.5 UJ	292 J	3.7 U	30 U	30.2	1530
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	mg/kg	2920	3.3 U	0.94 UJ	945	2.4 U	78.4	32.4	11700
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	mg/kg	2880	3.1 U	0.88 UJ	984	0.69 J	74.5	31.6	11700
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	mg/kg	2830	3 U	0.87 UJ	942	2.2 U	61.9	32.8	11100
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	mg/kg	2790	3.5 U	1 UJ	1030	2.5 U	20.4	31.6	12100
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	mg/kg	2870	3.3 U	0.96 UJ	1000	2.4 U	42.5	31	12500
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	mg/kg	3060	3.3 U	0.94 UJ	922	2.3 U	89.6	33.2	12600
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	mg/kg	4580	5.2	1.2 UJ	2130	2.9 U	23.3 U	47.8	23500
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	mg/kg	4660	6.7	1.1 UJ	2270	2.6 U	21.1 U	48.9	24800
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	mg/kg	3280	3.9	0.93 UJ	1420	2.3 U	18.7 U	36.4	13800

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	mg/kg	4000	4.8	1 UJ	1860	2.6 U	20.8 U	41.1	18100
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	mg/kg	4060	2.8 J	1.2 UJ	1720	3.1 U	24.4 U	42.4	17300
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	mg/kg	1520	4.3 UR	1.2 UJ	117 J	3.1 U	11.7 J	18	139
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	mg/kg	583	3 UR	0.87 U	107 U	2.2 U	17.4 UJ	17.6	35.4
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	mg/kg	2560	3.4 UR	0.97 U	1220	2.4 U	15.8 J	30.7	10000
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	mg/kg	1190	3 J	0.88 UJ	113 J	2.2 U	17.6 UJ	15.2	38.8 J
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	mg/kg	3520	4 J	3.2 UR	435 J	7.9 U	63.6 UJ	46.5	502
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	mg/kg	1020	2.3 J	0.81 UJ	95.4 J	2 U	16.3 UJ	14.3	47.7 J
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	mg/kg	4860	5 J	2.7 UJ	581 J	6.8 U	54.4 U	64.7	701
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	mg/kg	1140	0.76 U	0.73 UJ	88 U	1.8 U	14.5 U	13.6	29.4
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	mg/kg	1090	1.8 J	1 UR	89 U	2.5 U	20 UJ	14	101
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	mg/kg	3680	4.1 J	4 UR	428 J	10 U	79.7 UJ	46.9	863
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	mg/kg	1420	4.1	0.98 UJ	79.3 J	2.5 U	19.7 UJ	14.8	36.3 J
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	mg/kg	3440	7.7 J	3.1 UJ	285 J	7.9 U	62.9 U	46.1	628
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	mg/kg	4430	7.8 J	3.9 UJ	462 J	9.7 U	77.4 UJ	56.2	920 J
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	mg/kg	4100	8.6 J	4.2 UJ	395 J	10.5 U	84.3 UJ	49	874 J
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	mg/kg	2140	6.4 J	3.7 UJ	216 J	9.2 U	73.4 UJ	28.9	437 J
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	mg/kg	3260	8 J	3.5 UJ	320 J	8.8 U	70.5 U	43.8	633
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	mg/kg	1290	2.8 J	0.93 UJ	62.9 J	2.3 U	18.7 U	13.3	72.8
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	mg/kg	1540	3.4 J	1 UJ	98.7 J	2.5 U	19.9 U	19.3	45.8
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	mg/kg	2090	2.7 J	0.89 UJ	103 J	2.2 U	17.8 U	25.4	76
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	mg/kg	3160	5.1 J	2.7 UJ	281 J	6.8 U	54.6 U	48.4	508
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	mg/kg	1250	2.7 J	0.94 UJ	94.3 J	2.4 U	18.9 U	18.8	43.9
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	mg/kg	3000	6.5 J	2.7 UJ	297 J	6.8 U	54.3 U	44.4	482
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	mg/kg	959	3.3 J	0.94 UJ	114 J	2.4 U	18.9 U	16.7	59.5
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	mg/kg	1900	2.6 J	0.97 UR	156 J	2.4 U	19.4 UJ	19.3	44.5
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	mg/kg	1750	1.3 J	1.7 UR	306 J	4.2 U	33.5 UJ	25	327
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	mg/kg	1510	2.2 J	0.91 UR	98.1 J	2.3 U	18.3 UJ	12.9	33.9
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	mg/kg	2020	3.4 J	1.1 UJ	134 J	2.6 U	21.1 U	26	60.5
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	mg/kg	2910	4.2 J	1.8 UJ	199 J	4.6 U	36.8 U	36.9	406
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	mg/kg	1140	1.8 J	0.97 UJ	71.5 J	2.4 U	19.4 U	13.1	104
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	mg/kg	2250	5.7	1.3 UJ	177 J	3.3 U	26.1 UJ	24.6	101 J
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	mg/kg	3100	3.5 J	3.1 UR	405 J	7.7 U	61.2 UJ	39.7	826
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	mg/kg	1580	3.4	0.91 UJ	119 J	2.3 U	18.2 UJ	15.9	67.4 J
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	mg/kg	2250	5.6 J	2.5 UJ	216 J	6.3 U	50.4 UJ	30.2	578 J
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	mg/kg	1780	3.1 J	1 UJ	75.8 J	2.5 U	20.2 UJ	16.9	41.1 J
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	mg/kg	1670	2.3 J	0.99 UR	116 J	2.5 U	19.7 UJ	17.5	45.5
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	mg/kg	4640	4.7 J	3 UJ	463 J	7.5 U	59.7 U	60.2	799
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	mg/kg	881	2.5 J	1.1 UR	148 J	2.7 U	21.3 UJ	15.3	36.7
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	mg/kg	2840	3.2 J	2.2 UR	328 J	5.5 U	44.2 UJ	49.3	299
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	mg/kg	1210	1.6 J	0.93 UR	149 J	2.3 U	18.7 UJ	19.8	40.6
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	mg/kg	3730	5.2 J	2.2 UJ	270 J	5.4 U	43.1 U	47.8	1250
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	mg/kg	1880	2.5 J	1.3 UJ	198 J	3.2 U	25.6 U	28.6	291
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	mg/kg	1190	2.9 J	0.96 UJ	59.4 J	2.4 U	19.2 U	12.5	38.8
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	mg/kg	4020	8.9 J	2.8 UJ	367 J	7 U	56.1 U	55.4	634
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	mg/kg	1620	3.8	0.96 UJ	73.9 J	2.4 U	19.3 U	14.2	46.1
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	mg/kg	3580	7.3 J	2.6 UJ	283 J	6.5 U	52.2 U	50.4	421
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	mg/kg	1600	3.5	0.91 UJ	78.1 J	2.3 U	18.2 U	13.7	36.1
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	mg/kg	3170	4.1 J	2.5 UJ	256 J	6.3 U	50.3 U	43.1	762
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	mg/kg	3640	5.7 J	3.1 UJ	298 J	7.8 U	62 U	53.7	798
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	mg/kg	2390	2.7 J	2.1 UJ	258 J	5.2 U	41.8 U	32.8	543
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	mg/kg	1010	2.8 J	1.2 UJ	80.3 J	3 U	24.2 U	15.9	73.5
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	mg/kg	1160	3 J	0.99 UJ	99.2 J	2.5 U	19.9 U	20.1	165
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	mg/kg	1150	3 J	0.96 UJ	76 J	2.4 U	19.1 U	22	46.6

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	mg/kg	1200	2 J	0.99 UR	99.1 J	2.5 U	19.8 UJ	18.4	41.4
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	mg/kg	2360	4.6 J	2.1 UR	235 J	5.2 U	41.5 UJ	34.8	319
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	mg/kg	3070	7.9	2.2 UJ	290 J	5.6 U	44.5 UJ	43.2	823 J
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	mg/kg	1140	2.1 J	0.99 UJ	56.3 J	2.5 U	19.8 UJ	18.2	39.4 J
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	mg/kg	3020	2.7 U	1.4 UJ	291 J	3.5 U	28 U	40.7	669
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	mg/kg	4060	4.8 J	2.2 UJ	465 J	5.4 U	43.4 U	59.9	563
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	mg/kg	3360	4.1 J	1.8 UJ	402 J	4.5 U	36.4 U	49.5	640
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	mg/kg	3950	5.4 J	2 UJ	475 J	5.1 U	40.5 U	57.8	1040
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	mg/kg	2490	5.4 J	2.6 UJ	280 J	6.6 U	52.6 UJ	36.6	404 J
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	mg/kg	807	2.3 J	1 UJ	75.2 J	2.6 U	20.7 UJ	25.6	43 J
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	mg/kg	1060	4.2	0.85 UJ	78.4 U	2.1 U	17 U	33.6	83.1
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	mg/kg	4030	4.6 J	2.6 UJ	457 J	6.5 U	52.1 U	57.2	495
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	mg/kg	823	1 U	0.84 UJ	63 U	2.1 U	16.9 U	16.9	88.7
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	mg/kg	1150	4.6	0.94 UJ	45.4 U	2.3 U	18.7 U	43.1	83.2
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	mg/kg	2700	4.2 J	2.2 UJ	257 J	5.6 U	44.4 U	40.4	339
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	mg/kg	1100	2.6 U	1 UJ	87.4 U	2.5 U	20.1 U	17.3	39.6
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	mg/kg	2320	5.2	1.3 UJ	222 U	3.2 U	25.3 U	35.4	199
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	mg/kg	1250	2.1 U	0.89 UJ	114 U	2.2 U	17.9 U	18.2	51.8
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	mg/kg	720	2.3 U	1 UR	110 U	2.5 U	20.3 UJ	18.9	38.6
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	mg/kg	2460	5.1 J	2 UR	341 J	4.9 U	39.1 UJ	40.9	243
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	mg/kg	817	2.2 U	0.87 UJ	121 U	2.2 U	17.4 U	17.3	34.8
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	mg/kg	943	3.1 U	1 UR	144 J	2.5 U	20.1 UJ	30	59.6
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	mg/kg	3440	10.4 UR	3 UJ	368 J	7.4 U	59.5 U	52.7	415
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	mg/kg	726	3.7 UJ	1 UJ	83.4 J	2.6 U	21 U	14.8	33.1
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	mg/kg	1540	3.3 UR	0.95 UJ	73.3 J	2.4 U	7.8 J	18.4	36.1
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	mg/kg	1660	5.4 UR	1.5 UJ	162 J	3.8 U	30.6 U	29.9	166
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	mg/kg	1260	3.5 UR	1 UJ	82.9 J	2.5 U	9.6 J	21.8	44.6
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	mg/kg	2230	3.9 UR	1.1 UJ	209 J	2.8 U	8.6 J	36.2	59.4
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	mg/kg	2250	5.5 UR	1.6 UJ	223 J	3.9 U	31.5 U	38.5	149
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	mg/kg	2110	6.5 UR	1.9 UJ	225 J	4.7 U	10.3 J	38.9	275
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	mg/kg	850	3.4 UJ	0.96 UJ	137 J	2.4 U	8.6 J	28.6	62.3
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	mg/kg	1180	3.5 UJ	1 UJ	99.3 J	2.5 U	10.8 J	29.9	79.8
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	mg/kg	2460	7.2 UJ	2.1 UJ	298 J	5.1 U	41 U	41.2	383
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	mg/kg	664	3.3 UJ	0.93 UJ	70.9 J	2.3 U	4.7 J	23.2	36.3
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	mg/kg	663	3.3 UR	0.96 UJ	70.4 J	2.4 U	11.9 J	19.3	36.2
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	mg/kg	2760	9.2 UR	2.6 UJ	318 J	6.5 U	21.7 J	46.3	437
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	mg/kg	1550	3.7 UR	1.1 UJ	115 J	2.7 U	13.4 J	25.9	62
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	mg/kg	1010	3.9 UR	1.1 UJ	119 J	2.8 U	22.2 U	24.8	63.8
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	mg/kg	1840	7.5 UR	2.1 UJ	260 J	5.3 U	42.7 U	34.4	397
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	mg/kg	1440	3.9 UR	1.1 UJ	127 J	2.8 U	11.6 J	26.1	58.5
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	mg/kg	1670	4 UR	1.2 UJ	151 J	2.9 U	23.1 U	31.4	210
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	mg/kg	2470	10.1 UR	2.9 UJ	379 J	7.2 U	57.5 U	41.8	488
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	mg/kg	930	3.8 UR	1.1 UJ	146 J	2.7 U	21.5 U	31	40.3
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	mg/kg	454 J	3.6 UR	1 UJ	70 J	2.6 U	20.5 U	13.3	25.9
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	mg/kg	1970	8.8 UR	2.5 UJ	307 J	6.3 U	50.6 U	36.3	366
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	mg/kg	599	3.6 UR	1 UJ	135 J	2.5 U	6.4 U	22	41.6
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	mg/kg	2720	8.2 UR	2.4 UJ	448 J	5.9 U	47.1 U	50.7	671
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	mg/kg	3660	8.6 UR	2.5 UJ	558 J	6.1 U	49.1 U	61.3	855
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	mg/kg	2740	9.4 UR	2.7 UJ	450 J	6.7 U	18.3 U	49.7	873
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	mg/kg	3070	9.7 UR	2.8 UJ	473 J	6.9 U	22.5 U	57.1	742
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	mg/kg	2990	9.2 UR	2.6 UJ	503 J	6.5 U	52.3 U	54.3	663
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	mg/kg	1860	5.7 UR	1.6 UJ	290 J	4 U	32.4 U	32.3	127
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	mg/kg	1280	3.8 UR	1.1 UJ	183 J	2.7 U	21.5 U	25.2	36.9
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	mg/kg	2410	3.4 UR	0.98 U	289 J	2.5 U	19.7 UJ	33.8	68.9
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	mg/kg	2530	2 R	1.9 U	363 J	4.9 U	38.9 UJ	42.5	583
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	mg/kg	945	3.1 UR	0.88 UJ	164 J	2.2 U	7.8 U	19.9	31.9

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	mg/kg	2330	8.4 UR	2.4	347 J	6 U	11 J	44.4	719
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	mg/kg	462 J	3.4 UR	0.98 UJ	120 J	2.5 U	19.7 U	19.7	34.2
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	mg/kg	1500	4.2 UJ	1.2 UJ	156 J	3 U	24.1 U	29.7	52.3
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	mg/kg	2320	10.2 UJ	2.9 UJ	270 J	7.3 U	58.4 U	40	662
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	mg/kg	1260	4.2 UJ	1.2 UJ	125 J	3 U	24.1 U	27.5	45.8
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	mg/kg	664	3.6 UJ	1 UJ	117 J	2.6 U	20.8 U	23.2	41.4
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	mg/kg	2220	6.7 UJ	1.9 UJ	259 J	4.8 U	38.4 U	37.8	663
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	mg/kg	372 J	3.7 UJ	1.1 UJ	42.1 J	2.7 U	21.4 U	10.2	32.5
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	mg/kg	1970	6.1 UJ	1.8 UJ	219 J	4.4 U	35.1 U	38.4	910
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	mg/kg	1920	8.3 U	2.4 U	217 J	5.9 U	47.3 U	41	635 J
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	mg/kg	1020	3.4 UR	0.97 UJ	160 J	2.4 U	19.4 U	23.2	36.4
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	mg/kg	1250	3.6 U	1 U	154 J	2.6 U	20.8 U	30	46.5 J
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	mg/kg	1490	7.3 U	2.1 U	178 J	5.2 U	41.6 U	34.4	471 J
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	mg/kg	741	3.4 U	0.96 U	72.6 J	2.4 U	19.3 U	14.6	56.1 J
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	mg/kg	2030	7.3 UR	2.1 UJ	184 J	5.2 UJ	41.9 UJ	40.1	521
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	mg/kg	957	4 UR	1.1 UJ	72.6 J	2.8 UJ	22.6 UJ	9.6	16
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	mg/kg	906	3.8 UR	1.1 UJ	100 J	2.7 UJ	21.6 UJ	19	45.4
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	mg/kg	1410	4.1 UR	1.2 UJ	436 J	2.9 UJ	23.6 UJ	21.9	4700
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	mg/kg	566	3.4 UR	0.97 UJ	19.5 J	2.4 UJ	19.3 UJ	7.7	27.4
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	mg/kg	3470	3.6 U	1 U	1250	2.6 U	76.1	38.5	19500 J
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	mg/kg	1310	4.4 UR	1.3 UJ	125 J	3.2 UJ	25.3 UJ	28.5	896
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	mg/kg	852	5.4	1.2 U	34.1 J	3 U	10 J	38.4	260 J
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	mg/kg	2100	23.4	1.2 U	585 J	3 U	46.4	30.6	11100 J
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	mg/kg	1100	4.1 U	1.2 U	133 J	2.9 U	23.3 U	23.8	166 J
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	mg/kg	1530	4.8 UR	1.4 UJ	179 J	3.4 U	27.2 U	29.9	1120
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	mg/kg	926	4.6 UR	1.3 U	124 J	3.3 UJ	26.2 UJ	23.5	590
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	mg/kg	3190	3.6 UR	1 U	1350	2.6 UJ	20.4 UJ	39	10300
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	mg/kg	1760	6.2 UR	1.8 U	265 J	4.4 UJ	35.2 UJ	42.9	173
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	mg/kg	1640	8.4 UR	2.4 U	226 J	6 UJ	47.7 UJ	40.3	160
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	mg/kg	962	3.7 UR	1.1 UJ	103 J	0.85 J	7.5 J	29.7	157
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	mg/kg	3020	4 UR	1.1 U	1260	2.9 UJ	22.9 UJ	37.3	9980
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	mg/kg	5260	4 UR	1.1 UJ	466 J	2.9 U	23.7	71.4	139
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	mg/kg	1390	5.3 UR	1.5 U	172 J	3.8 UJ	30.1 UJ	30.7	351
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	mg/kg	2310	4.9 UR	1.4 U	685 J	3.5 UJ	49.3 J	32.5	6340
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	mg/kg	1400	4.6 UR	1.3 U	194 J	3.3 UJ	26.3 UJ	26.4	392
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	mg/kg	3650	4.5 UR	1.3 UJ	1350	3.2 U	55.8	37.4	13600
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	mg/kg	933	3.9 UR	1.1 U	124 J	2.8 UJ	22 UJ	25.4	182
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	mg/kg	1870	5.8 UR	1.7 UJ	201 J	4.1 U	17.3 J	31.9	563
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	mg/kg	1780	5.1 UR	1.5 UJ	198 J	3.6 U	23.2 J	32	971
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	mg/kg	1230	3.8 UR	1.1 UJ	117 J	2.7 U	21.9 U	19.6	94.4
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	mg/kg	1160	4 UR	1.1 UJ	150 J	2.8 U	22.7 U	30.5	1180
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	mg/kg	1060	6 UR	1.7 UJ	194 J	4.3 U	34 U	21.6	1240
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	mg/kg	1700	4.5 UR	1.3 UJ	234 J	3.2 U	25.6 U	35.7	545
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	mg/kg	914	3.2 UR	0.92 UJ	146 J	2.3 U	18.3 U	24.1	210
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	mg/kg	4900	3.7 UR	6.3 J	2810	2.7 U	111	46.3	19200
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	mg/kg	1420	4.6 UR	1.3 UJ	155 J	3.3 U	8.5 U	26.7	1520
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	mg/kg	1630	4.6 UR	1.3 UJ	205 J	3.3 U	26.4 U	31.2	1000
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	mg/kg	4510	3.9 UR	7.7 J	2780	2.8 U	59.1	41.2	20100
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	mg/kg	2230	6.2 UR	1.8 UJ	262 J	4.4 U	10.1 J	35	809
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	mg/kg	1810	3.2 UR	0.26 UJ	916	2.3 U	18 U	24.5	4070
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	mg/kg	1010	4.5 UR	1.3 UJ	200 J	3.2 U	25.4 U	23.4	1320
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	mg/kg	4770	3 UR	0.86 U	2840	2.2 U	108 J	43.7	19200
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	mg/kg	664	0.98 R	0.96 U	114 U	2.4 U	19.1 UJ	15.2	268
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	mg/kg	903	4 UR	1.1 U	95.5 U	2.9 U	22.8 UJ	21.3	621
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	mg/kg	1210	4.7 UJ	1.3 UJ	306 J	3.4 U	26.9 U	22.5	2470
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	mg/kg	3400	4 UR	1.1 UJ	2040	2.8 UJ	71.1 J	38.1	14800

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	mg/kg	1010	4.9 UR	1.4 UJ	314 J	3.5 UJ	9.8 J	20.7	2730
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	mg/kg	1090	5.3 UR	1.5 UJ	174 J	3.8 UJ	30 UJ	20.7	1830
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	mg/kg	2270	23.2	1.2 U	1250	3.1 U	57.6	31.2	9180 J
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	mg/kg	1510	4.4 U	1.3 U	679	3.1 U	17.5 J	23.8	5010 J
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	mg/kg	4260	3.9 UR	1.1 UJ	2400	2.8 U	127	41.2	16600
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	mg/kg	1020	3.4 UR	0.96 UJ	215 J	0.68 J	11.4 J	20.1	1800
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	mg/kg	779	3.4 UR	0.98 UJ	102 J	2.5 U	4.6 J	21.3	249
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	mg/kg	1260	3.8 UR	1.1 U	234 J	2.7 UJ	4.8 J	24.2	1710
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	mg/kg	1250	4.2 UR	1.2 U	181 J	3 UJ	23.9 UJ	28.9	1710
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	mg/kg	3280	3.6 UR	1 U	1720	2.5 UJ	20.4 UJ	38	13800
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	mg/kg	1950	3.6 UR	1 U	892	2.6 UJ	20.6 UJ	37.3	6200
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	mg/kg	890	4 UR	1.1 U	116 J	2.8 UJ	22.6 UJ	28.6	590
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	mg/kg	2690	4.2 UR	1.2 UJ	1380	3 U	75.4	29.7	10800
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	mg/kg	1140	3.8 UR	1.1 UJ	211 J	2.7 U	30.8	24.7	3550
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	mg/kg	3400	3.5 UR	0.99 UJ	1540	2.5 U	71.1	42.3	26600
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	mg/kg	1390	3.8 UR	1.1 UJ	593	2.7 U	8.7 U	21.6	4150
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	mg/kg	1120	4.1 UR	1.2 UJ	295 J	3 U	23.8	68.5	2370
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	mg/kg	1900	3.6 UR	3.8 J	1130	2.6 U	8.1 U	26	7200
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	mg/kg	2230	4 UR	4.7 J	1070	2.8 U	27	28.7	9020
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	mg/kg	4560	3.6 UR	11.6 J	2750	2.6 U	62.7	43.9	20400
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	mg/kg	1190	4.2 UJ	1.2 UJ	279 J	3 U	24 U	24.2	1900
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	mg/kg	1830	4.5 UR	1.3 U	941	1.2 J	6.8 J	27.1	7240
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	mg/kg	988	4.7 UR	1.3 UJ	164 J	3.3 UJ	26.6 UJ	21.6	1110
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	mg/kg	946	3.6 UR	1 UJ	347 J	2.6 UJ	19.2 J	19.8	3250
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	mg/kg	3800	3.8 UR	1.1 UJ	1980	1.4 J	21.5 UJ	41	15200
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	mg/kg	2430	2.3 U	0.93 UJ	320 J	2.3 U	18.6 U	33.4	94.2
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	mg/kg	747	3 U	1.2 UR	99 U	3.1 U	24.8 UJ	8.9	27.9
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	mg/kg	1740	1.7 U	1 UJ	184 J	2.5 U	20 U	21.1	140
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	mg/kg	1400	3.1 U	1.3 UR	159 J	3.3 U	26.8 UJ	20.1	102
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	mg/kg	1120	2.8 U	1.2 UR	112 U	3 U	24.4 UJ	14.3	49.5
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	mg/kg	1810	2.7 U	1 UJ	137 J	2.5 U	20.2 U	17.8	62.5
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	mg/kg	1020	3.6 J	1.2 UJ	92 U	2.9 U	23.1 U	9	40.7
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	mg/kg	1860	3.9 U	1 UR	136 U	2.6 U	20.9 UJ	28.1	76.4
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	mg/kg	1180	2.6 U	1.2 UR	111 U	2.9 U	23.3 UJ	14.5	30.9
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	mg/kg	2290	3.1 U	1.2 UR	170 J	2.9 U	23.3 UJ	29.8	86.5
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	mg/kg	2430	4.8 J	1.9 UR	254 J	4.7 U	37.7 UJ	29.6	355
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	mg/kg	1800	3.1 U	1.2 UR	171 J	3 U	24.3 UJ	22.8	292
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	mg/kg	2310	3.5 U	1.2 UR	197 J	3 U	24 UJ	34.4	64
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	mg/kg	2550	4 U	1.3 UR	291 J	3.2 U	25.6 UJ	38.7	88.6
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	mg/kg	1490	2.3 U	1.2 UJ	153 U	3 U	24.2 U	22	83.5
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	mg/kg	1990	3.7 J	1.3 UJ	244 J	3.2 U	25.4 U	32.9	61.1
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	mg/kg	2370	5	1.4 UJ	270 J	3.6 U	28.5 U	38.8	70.4
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	mg/kg	1040	2.4 J	1.3 UJ	150 J	3.1 U	25.2 U	22.9	58.7
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	mg/kg	1300	3.6 J	1.3 UJ	167 J	3.2 U	25.3 U	27	76.6
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	mg/kg	714	1.4 J	1.2 UJ	172 J	2.9 U	23.1 U	18.2	40.7
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	mg/kg	1370	4.3 UJ	1.2 UJ	165 J	3.1 U	24.8 U	25.9	62.6
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	mg/kg	474 J	3.9 UJ	1.1 UJ	74.6 J	2.8 U	22 U	11.7	28.7
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	mg/kg	2110	7.1 UJ	2 UJ	249 J	5.1 U	11.5 J	40	954
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	mg/kg	1950	4.6 UJ	1.3 UJ	215 J	3.3 U	5.6 J	31.2	204
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	mg/kg	1600	7.7 UJ	2.2 UJ	137 J	5.5 U	9.6 J	26.3	764
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	mg/kg	1180	4.1 J	2.3 UJ	229 J	5.8 U	46.7 U	36.9	97.5
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	mg/kg	1330	9.6	1.6 UJ	172 J	4 U	32.4 U	28.8	1340
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	mg/kg	1420	7	1.8 UJ	126 J	4.4 U	35.4 U	29.7	643
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	mg/kg	890	3.6 U	1.1 UJ	112 U	2.7 U	21.4 U	19.1	179
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	mg/kg	1250	7.7	1.6 UJ	243 U	4 U	32.2 U	22.5	2290

Table B-4. Concentrations of Metals/Metalloids in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Date	Depth	Units	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	mg/kg	1690	5.1 U	1.4 UJ	154 J	3.6 U	29 U	28.2	93.1
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	mg/kg	2520	10.6	1.2 UJ	933	3 U	24.4 U	30	8410
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	mg/kg	1030	6.5	1.2 UJ	251 U	3.1 U	24.5 U	25.7	1310
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	mg/kg	611	3.9 J	1.2 UJ	157 U	3 U	24.1 U	11	1250
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	mg/kg	2480	3.7	0.98 UJ	957	2.4 U	19.6 U	28	8200
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	mg/kg	1330	9.8	1.4 UJ	197 U	3.5 U	28.3 U	27	1760
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	mg/kg	3200	13	1.2 UJ	1630	3 U	23.8 U	35.1	12300
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	mg/kg	4020	19.5	1.2 UJ	1770	3 U	23.8 U	41.3	14400
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	mg/kg	1180	4.8 J	1.5 UJ	390 J	3.7 U	29.9 U	22.6	2120
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	mg/kg	1190	5 U	1.4 UJ	226 J	1.5 J	9.4 J	21.4	1480
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	mg/kg	1120	7.4	1.2 UJ	438 J	3.1 U	24.8 U	21.5	3190
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	mg/kg	1050	9.2	1.3 UJ	534 J	3.2 U	25.3 U	23.1	2920
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	mg/kg	2130	11.4	1.2 UJ	1220	3.1 U	24.4 U	28.1	8330
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	mg/kg	1060	7	1.3 UJ	386 J	3.2 U	25.9 U	24.2	2560
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	mg/kg	1210	4.7 UJ	1.3 UJ	251 J	3.3 U	16.4 J	20.6	2380
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	mg/kg	1010	4.1 UJ	1.2 UJ	368 J	1.1 J	11.4 J	20.1	2480
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	mg/kg	2400	4.3 UJ	0.71 J	1390	3.1 U	54.7	28.3	9940

Notes:

*	Only primary samples are presented in this table - field duplicates were not included.
TOC	Total Organic Carbon.
J	The analyte was positively identified. The associated numerical result is an estimate.
U	The compound was analyzed for, but was not detected.
UJ	The analyte was not detected, value is estimated.
UR	Non-detected value, data unusable. Rejected by CH2M HILL project validator. Samples with this code were not included in the SLERA.

Table B-5. Concentrations of Dioxins/Furans in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,2,3,4,6,7,8-Heptachloro-dibenzodioxin		1,2,3,4,6,7,8-Heptachloro-dibenzofuran		1,2,3,4,7,8,9-Heptachloro-dibenzofuran		1,2,3,4,7,8-Hexachloro-dibenzodioxin		1,2,3,4,7,8-Hexachloro-dibenzofuran		1,2,3,6,7,8-Hexachloro-dibenzodioxin		1,2,3,6,7,8-Hexachloro-dibenzofuran		1,2,3,7,8,9-Hexachloro-dibenzodioxin	
				WHO 1998 FISH TEF =		0.001		0.01		0.01		0.5		0.1		0.01		0.1		0.01	
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	pg/g	0.614	U	0.14	J	0.08	U	0.088	J	0.041	U	0.08	J	0.041	U	0.069	J
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	pg/g	0.892	U	0.14	J	0.12	U	0.11	J	0.052	U	0.072	J	0.049	U	0.091	U
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	pg/g	1.26	J	0.25	J	0.1	U	0.065	J	0.031	U	0.076	U	0.044	U	0.067	J
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	pg/g	0.947	J	0.076	J	0.062	U	0.091	U	0.044	U	0.087	U	0.043	U	0.09	U
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	pg/g	0.59	U	0.089	J	0.082	U	0.063	U	0.034	U	0.066	U	0.034	U	0.065	U
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	pg/g	0.249	U	0.054	U	0.079	U	0.082	U	0.04	U	0.082	U	0.039	U	0.083	U
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	pg/g	4.35		11		0.14	U	0.085	U	0.16	U	0.55	J	0.13	U	0.26	J
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	pg/g	0.102	U	0.19	J	0.079	U	0.098	U	0.046	U	0.1	U	0.045	U	0.1	U
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	pg/g	0.261	U	0.16	J	0.1	U	0.055	U	0.034	U	0.057	U	0.032	U	0.056	U
Beach Subsample Composite	RM642B1	642	4/15/05	0 to 0.5 (ft)	pg/g	0.866	U	0.1	U	0.091	U	0.069	U	0.045	U	0.073	J	0.042	U	0.072	U
Beach Subsample Composite	RM642B2	642	4/15/05	0 to 0.5 (ft)	pg/g	1.07	U	0.11	U	0.1	U	0.071	U	0.068	U	0.067	U	0.065	U	0.095	U
Beach Subsample Composite	RM642B3	642	4/15/05	0 to 0.5 (ft)	pg/g	2.84		0.48	J	0.11	U	0.1	U	0.065	U	0.22	J	0.064	U	0.19	J
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	pg/g	0.281	U	0.078	U	0.075	U	0.068	U	0.039	U	0.07	U	0.023	J	0.069	U
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	pg/g	0.395	U	0.079	U	0.07	U	0.048	U	0.018	U	0.052	U	0.028	U	0.05	U
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	pg/g	0.18	U	0.047	U	0.074	U	0.071	U	0.034	U	0.071	U	0.019	J	0.071	U
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	pg/g	0.548	U	0.12	U	0.071	U	0.079	U	0.047	J	0.088	U	0.046	U	0.084	U
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	pg/g	2.2		0.51	J	0.16	U	0.096	U	0.1	U	0.26	J	0.048	J	0.16	J
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	pg/g	3.63		0.62	J	0.093	U	0.079	U	0.094	J	0.25	J	0.057	J	0.15	J
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	pg/g	6.38		0.53	J	0.11	U	0.23	J	0.063	U	0.37	J	0.053	U	0.265	J
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	pg/g	2.95		0.36	J	0.15	U	0.16	U	0.1	U	0.24	J	0.1	U	0.16	U
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	pg/g	2.03	U	0.38	J	0.077	U	0.059	J	0.064	U	0.11	J	0.063	U	0.094	U
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	pg/g	0.623	U	0.13	U	0.12	U	0.12	U	0.047	U	0.12	U	0.043	U	0.12	U
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	pg/g	1.03	U	0.23	U	0.095	U	0.11	U	0.054	U	0.11	J	0.055	U	0.075	J
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	pg/g	1.97		0.35	U	0.078	U	0.07	J	0.053	U	0.14	J	0.051	U	0.082	J
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	pg/g	0.473	U	0.091	U	0.054	U	0.075	U	0.047	U	0.078	U	0.047	U	0.077	U
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	pg/g	4.91		0.99	J	0.062	J	0.12	J	0.14	J	0.37	J	0.1	J	0.26	U
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	pg/g	8.58		1.74		0.21	J	0.18	J	0.24	J	0.77	J	0.19	J	0.51	U
Beach Subsample Composite	RM700B1	700	4/12/05	0 to 0.5 (ft)	pg/g	0.455	U	0.13	U	0.055	U	0.049	J	0.025	U	0.055	J	0.027	U	0.066	U
Beach Subsample Composite	RM700B2	700	4/12/05	0 to 0.5 (ft)	pg/g	2.5		0.37	U	0.11	U	0.085	J	0.047	J	0.083	J	0.047	U	0.069	U
Beach Subsample Composite	RM700B3	700	4/12/05	0 to 0.5 (ft)	pg/g	0.54	U	0.078	U	0.047	U	0.05	U	0.022	J	0.053	U	0.043	J	0.051	U
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	pg/g	1.43	J	0.39	J	0.12	U	0.076	U	0.052	U	0.097	U	0.05	J	0.075	U
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	pg/g	8.07		1.6	J	0.12	U	0.15	J	0.2	U	0.59	U	0.13	U	0.45	J
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	pg/g	11.4		2		0.17	U	0.21	J	0.28	U	0.84	J	0.2	U	0.6	J
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	pg/g	1.8		0.41	U	0.078	U	0.061	J	0.082	U	0.17	J	0.068	U	0.12	J
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	pg/g	10.1		1.9		0.18	U	0.18	J	0.25	U	0.67	U	0.19	U	0.48	J
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	pg/g	6.31		1	J	0.1	U	0.13	U	0.17	U	0.45	U	0.12	U	0.28	J
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	pg/g	1.82		1.2	J	0.053	U	0.069	J	0.056	U	0.13	J	0.053	U	0.098	J
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	pg/g	0.662	U	0.15	U	0.043	U	0.055	J	0.029	U	0.051	J	0.035	U	0.038	U
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	pg/g	0.472	U	0.28	U	0.034	U	0.037	U	0.043	U	0.038	U	0.043	U	0.036	J
Beach Subsample Composite	RM735B1	735	4/11/05	0 to 0.5 (ft)	pg/g	3.97		5.2		0.079	U	0.14	J	0.13	U	0.32	J	0.093	U	0.17	J
Beach Subsample Composite	RM735B2	735	4/11/05	0 to 0.5 (ft)	pg/g	2.22		0.42	U	0.047	U	0.026	J	0.056	U	0.1	U	0.047	U	0.066	U
Beach Subsample Composite	RM735B3	735	4/11/05	0 to 0.5 (ft)	pg/g	1.54	J	0.38	U	0.034	U	0.033	J	0.054	U	0.088	J	0.045	U	0.046	U
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	pg/g	0.307	U	0.085	U	0.034	U	0.041	U	0.028	U	0.04	U	0.027	U	0.04	U
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	pg/g	0.226	U	0.094	U	0.038	U	0.056	U	0.027	U	0.055	U	0.028	U	0.055	U
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	pg/g	0.382	U	0.12	U	0.04	U	0.034	U	0.034	U	0.035	U	0.029	U	0.034	U
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	pg/g	36		9.2		0.56	J	0.66	J	0.94	J	2.5	J	0.66	J	1.7	J
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	pg/g	1.02	J	0.23	J	0.098	U	0.077	U	0.043	U	0.076	U	0.061	U	0.094	U
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	pg/g	0.63	J	0.076	J	0.17	U	0.058	U	0.027	U	0.058	U	0.035	U	0.051	U
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	pg/g	20		4.9		0.22	J	0.37	J	0.45	J	2.2	J	0.35	U	1.3	J
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	pg/g	44.5		12.2		0.51	J	0.66	J	0.93	J	2.6	J	0.63	U	1.9	J

Table B-5. Concentrations of Dioxins/Furans in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,2,3,4,6,7,8-Heptachloro-dibenzodioxin		1,2,3,4,6,7,8-Heptachloro-dibenzofuran		1,2,3,4,7,8,9-Heptachloro-dibenzofuran		1,2,3,4,7,8-Hexachloro-dibenzodioxin		1,2,3,4,7,8-Hexachloro-dibenzofuran		1,2,3,6,7,8-Hexachloro-dibenzodioxin		1,2,3,6,7,8-Hexachloro-dibenzofuran		1,2,3,7,8,9-Hexachloro-dibenzodioxin	
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	pg/g	0.71	J	3.67		0.056	U	0.05	J	0.103	U	0.12	J	0.13	U	0.064	U
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	pg/g	0.27	J	0.091	J	0.058	U	0.056	U	0.023	U	0.058	U	0.021	U	0.057	U
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	pg/g	10		2	J	0.1	J	0.21	J	0.31	J	0.87	J	0.21	U	0.54	J
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	pg/g	8.2		1.8	J	0.18	J	0.16	U	0.24	U	0.79	J	0.16	U	0.49	J
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	pg/g	8.23		1.85	J	0.17	U	0.19	J	0.27	J	0.46	J	0.145	U	0.35	J
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	pg/g	0.98	J	0.53	J	0.083	J	0.098	U	0.11	U	0.18	J	0.097	U	0.16	J
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	pg/g	0.63	J	0.33	J	0.1	J	0.085	U	0.12	U	0.087	U	0.11	U	0.091	J
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	pg/g	20		3.8		0.22	J	0.35	J	0.51	J	1.3	J	0.36	J	0.78	J
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	pg/g	15		2.6	J	0.16	J	0.26	J	0.31	J	0.82	J	0.24	J	0.49	J
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	pg/g	13		2.3	J	0.17	J	0.24	J	0.32	J	1.3	J	0.25	J	0.67	J
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	pg/g	4.21		0.87	J	0.071	J	0.092	J	0.12	J	0.24	J	0.074	J	0.13	J
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	pg/g	25		5.4		0.44	J	0.35	J	0.61	J	0.38	J	0.4	J	0.35	J
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	pg/g	0.16	U	0.078	U	0.14	U	0.099	U	0.047	U	0.1	U	0.046	U	0.1	U
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	pg/g	0.29	U	0.081	U	0.059	U	0.067	U	0.027	U	0.051	U	0.026	U	0.052	U
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	pg/g	0.16	U	0.054	U	0.067	U	0.055	U	0.022	U	0.056	U	0.04	U	0.056	U
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	pg/g	0.17	U	0.052	U	0.045	U	0.07	U	0.021	U	0.069	U	0.025	U	0.07	U
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	pg/g	0.25	U	0.06	U	0.086	U	0.091	U	0.02	U	0.095	U	0.02	U	0.094	U
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	pg/g	0.18	U	0.056	U	0.07	U	0.063	U	0.024	U	0.067	U	0.03	U	0.065	U
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	pg/g	1.6		0.27	J	0.1	U	0.14	U	0.052	U	0.15	J	0.049	U	0.12	J
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	pg/g	0.61	U	0.11	U	0.05	U	0.046	U	0.029	U	0.051	U	0.033	J	0.049	U
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	pg/g	4.1		1.61	J	0.07	U	0.073	U	0.065	U	0.196	U	0.061	U	0.13	J

Table B-5. Concentrations of Dioxins/Furans in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,2,3,7,8,9-Hexachloro-dibenzofuran		1,2,3,7,8-Pentachloro-dibenzofuran		1,2,3,7,8-Pentachloro-dibenzo-p-dioxin		2,3,4,6,7,8-Hexachloro-dibenzofuran		2,3,4,7,8-Pentachloro-dibenzofuran		2,3,7,8-Tetrachloro-dibenzodioxin		2,3,7,8-Tetrachloro-dibenzofuran		Octachloro-dibenzodioxin		Octachloro-dibenzofuran		TCDD TEQ (1/2 DL)
				WHO 1998 FISH TEF =		0.1		0.05		1		0.1		0.5		1		0.05		0.0001		0.0001		
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	pg/g	0.064	U	0.029	U	0.058	U	0.043	U	0.03	U	0.053	U	0.1	U	3.7	U	0.25	J	0.123
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	pg/g	0.082	U	0.034	U	0.064	U	0.053	J	0.051	U	0.047	U	0.095	U	5.6		0.33	J	0.145
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	pg/g	0.073	U	0.035	U	0.07	U	0.045	U	0.029	U	0.057	U	0.2	U	19		0.51	J	0.126
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	pg/g	0.073	U	0.028	U	0.06	U	0.044	U	0.027	U	0.057	U	0.092	U	5.3		0.24	U	0.105
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	pg/g	0.056	U	0.033	U	0.054	U	0.035	U	0.036	U	0.05	U	0.16	U	4		0.16	J	0.092
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	pg/g	0.067	U	0.042	U	0.086	U	0.043	U	0.045	U	0.066	U	0.096	U	1.9	U	0.17	U	0.122
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	pg/g	0.176	U	0.037	U	0.068	U	0.17	U	0.1	U	0.053	U	0.11	U	31		3.2	J	0.269
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	pg/g	0.071	U	0.021	U	0.056	U	0.05	U	0.037	U	0.052	U	0.057	U	2.3	U	0.2	J	0.104
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	pg/g	0.055	U	0.024	U	0.052	U	0.036	U	0.024	U	0.057	U	0.072	U	1.6	U	0.2	U	0.087
Beach Subsample Composite	RM642B1	642	4/15/05	0 to 0.5 (ft)	pg/g	0.069	U	0.034	U	0.049	U	0.045	U	0.032	U	0.056	U	0.31	J	7.9	U	0.58	U	0.107
Beach Subsample Composite	RM642B2	642	4/15/05	0 to 0.5 (ft)	pg/g	0.108	U	0.036	U	0.061	U	0.069	U	0.043	U	0.058	U	0.68		7.6	U	0.28	U	0.141
Beach Subsample Composite	RM642B3	642	4/15/05	0 to 0.5 (ft)	pg/g	0.099	U	0.071	U	0.068	U	0.079	J	0.19	U	0.068	U	4		21		0.89	J	0.376
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	pg/g	0.063	U	0.031	U	0.041	U	0.041	U	0.029	U	0.047	U	0.1	U	3.3	U	0.097	U	0.083
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	pg/g	0.047	U	0.021	U	0.051	U	0.028	U	0.034	U	0.035	U	0.067	U	7.2	U	0.33	U	0.074
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	pg/g	0.028	U	0.02	U	0.039	U	0.016	J	0.027	U	0.042	U	0.12	U	1.7	U	0.14	U	0.077
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	pg/g	0.070	U	0.041	U	0.057	U	0.057	J	0.047	U	0.045	U	0.084	U	3.3	U	0.21	U	0.104
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	pg/g	0.100	J	0.049	U	0.1	J	0.046	J	0.14	U	0.063	U	0.78		17		0.98	J	0.269
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	pg/g	0.037	J	0.058	U	0.081	J	0.069	J	0.099	U	0.052	U	1.2		42		1.4	J	0.257
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	pg/g	0.086	U	0.075	U	0.13	J	0.1	U	0.093	U	0.094	J	1.42		51.7		0.74	J	0.474
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	pg/g	0.170	U	0.057	U	0.1	U	0.1	U	0.095	U	0.1	U	0.72		23		0.65	J	0.238
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	pg/g	0.103	U	0.043	U	0.051	U	0.062	U	0.082	U	0.061	U	1.9		15		0.7	J	0.225
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	pg/g	0.071	U	0.039	U	0.055	U	0.046	U	0.039	U	0.075	U	0.65		4.4	U	0.2	U	0.152
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	pg/g	0.083	U	0.038	U	0.058	U	0.056	U	0.045	U	0.073	U	1.2		7.8	U	0.68	U	0.182
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	pg/g	0.076	U	0.045	U	0.052	U	0.045	J	0.065	U	0.047	U	1.5		15		0.98	J	0.198
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	pg/g	0.073	U	0.023	U	0.044	U	0.047	U	0.028	J	0.039	U	0.29	J	3.2	U	0.16	U	0.102
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	pg/g	0.079	U	0.16	J	0.17	U	0.11	U	0.24	J	0.15	J	8.7		33		2.1	J	0.915
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	pg/g	0.213	U	0.24	J	0.262	J	0.21	U	0.47	J	0.25	J	16.1		50.9		4.16		1.762
Beach Subsample Composite	RM700B1	700	4/12/05	0 to 0.5 (ft)	pg/g	0.036	U	0.021	U	0.043	U	0.018	U	0.034	U	0.032	U	0.072	J	5		0.24	U	0.082
Beach Subsample Composite	RM700B2	700	4/12/05	0 to 0.5 (ft)	pg/g	0.073	U	0.031	U	0.086	U	0.049	U	0.038	U	0.055	U	0.078	U	25		1	J	0.147
Beach Subsample Composite	RM700B3	700	4/12/05	0 to 0.5 (ft)	pg/g	0.046	U	0.031	U	0.043	U	0.03	U	0.036	U	0.037	U	0.082	U	5.4	U	0.15	U	0.076
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	pg/g	0.064	U	0.043	U	0.045	U	0.056	U	0.077	J	0.04	U	1.15		10.3		0.67	J	0.180
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	pg/g	0.073	U	0.24	J	0.16	U	0.17	U	0.46	J	0.25	J	18		55		3.8		1.614
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	pg/g	0.077	U	0.33	J	0.21	J	0.24	U	0.61	J	0.28	J	24		87		5.5		2.212
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	pg/g	0.063	U	0.07	J	0.062	J	0.092	U	0.14	J	0.081	U	3.8		12		0.93	J	0.420
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	pg/g	0.116	U	0.27	U	0.17	J	0.23	U	0.43	J	0.19	J	15		77		4.9		1.507
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	pg/g	0.078	U	0.19	J	0.099	J	0.14	U	0.34	J	0.19	J	14		40		2.6	J	1.253
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	pg/g	0.043	U	0.036	U	0.04	J	0.054	U	0.064	J	0.034	U	0.67		13		0.99	J	0.186
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	pg/g	0.042	U	0.026	J	0.022	J	0.031	U	0.05	J	0.035	U	0.57		4.2		0.33	U	0.131
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	pg/g	0.053	U	0.035	U	0.025	U	0.056	U	0.061	J	0.04	U	0.56		2.2	U	0.26	U	0.113
Beach Subsample Composite	RM735B1	735	4/11/05	0 to 0.5 (ft)	pg/g	0.056	U	0.052	J	0.069	U	0.12	U	0.11	J	0.045	U	0.75		33		2.4	J	0.307
Beach Subsample Composite	RM735B2	735	4/11/05	0 to 0.5 (ft)	pg/g	0.036	U	0.028	J	0.026	U	0.048	U	0.058	J	0.043	U	0.57		13		1.1	J	0.123
Beach Subsample Composite	RM735B3	735	4/11/05	0 to 0.5 (ft)	pg/g	0.025	U	0.03	J	0.028	J	0.041	U	0.058	J	0.037	U	0.77		11		0.8	J	0.146
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	pg/g	0.039	U	0.021	U	0.027	U	0.026	U	0.038	U	0.057	U	0.36		1.8	U	0.17	U	0.088
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	pg/g	0.036	U	0.019	U	0.026	U	0.027	U	0.034	U	0.034	U	0.43		1.3	U	0.13	U	0.082
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	pg/g	0.039	U	0.034	U	0.024	U	0.029	U	0.045	U	0.052	U	0.23	J	2.7	U	0.23	U	0.078
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	pg/g	0.340	J	0.72	J	0.67	J	0.94	J	1.5	J	0.5	J	27		248		17		4.126
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	pg/g	0.069	U	0.052	U	0.053	U	0.037	J	0.074	U	0.039	U	0.14	J	6.21		0.386		0.110
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	pg/g	0.051	U	0.034	U	0.053	U	0.035	U	0.034	U	0.042	U	0.089	U	6.05		0.31	J	0.084
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	pg/g	0.190	U	0.63	J	0.41	J	0.4	J	1.1	J	0.59	J	53		138		7.9	J	4.649
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	pg/g	0.232	U	0.59	J	0.52	J	0.86	J	1.4	J	0.4	J	20		338		21.7		3.454

Table B-5. Concentrations of Dioxins/Furans in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,2,3,7,8,9-Hexachloro-dibenzofuran		1,2,3,7,8-Pentachloro-dibenzofuran		1,2,3,7,8-Pentachloro-dibenzo-p-dioxin		2,3,4,6,7,8-Hexachloro-dibenzofuran		2,3,4,7,8-Pentachloro-dibenzofuran		2,3,7,8-Tetrachloro-dibenzodioxin		2,3,7,8-Tetrachloro-dibenzofuran		Octachloro-dibenzodioxin		Octachloro-dibenzofuran		TCDD TEQ (1/2 DL)
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	pg/g	0.058	U	0.035	U	0.05	U	0.091	J	0.061	U	0.036	U	0.204	U	4.21		1.14	J	0.153
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	pg/g	0.040	U	0.021	U	0.049	U	0.021	J	0.023	U	0.034	U	0.076	J	1.45		0.12	J	0.074
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	pg/g	0.150	U	0.29	U	0.18	J	0.21	J	0.5	J	0.28	J	17		77.8		5.5	J	1.796
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	pg/g	0.092	U	0.26	U	0.16	J	0.18	J	0.47	J	0.22	J	19		55.7		4.4	J	1.701
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	pg/g	0.114	U	0.14	U	0.12	U	0.16	U	0.27	U	0.11	J	1.45		57		4.44		0.498
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	pg/g	0.073	U	0.061	U	0.06	J	0.097	J	0.12	U	0.041	U	0.15	J	8.11		1.2	J	0.179
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	pg/g	0.071	U	0.069	U	0.084	U	0.069	J	0.071	U	0.057	U	0.1	U	4.46		2.1	J	0.143
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	pg/g	0.184	J	0.47	J	0.33	J	0.45	J	0.82	J	0.5	J	28		160		11		3.087
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	pg/g	0.107	J	0.27	U	0.2	J	0.28	J	0.47	J	0.23		14		125		8.1		1.664
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	pg/g	0.111	J	0.51	J	0.27	J	0.24	J	0.94	J	0.53	J	52		105		6.2		4.176
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	pg/g	0.049	J	0.096	U	0.07	J	0.093	J	0.18	J	0.13	J	4.04		34.1		2.53	J	0.595
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	pg/g	0.222	J	0.37	J	0.36	J	0.46	J	0.54	J	0.32	J	3.7		201		16		1.610
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	pg/g	0.081	U	0.045	U	0.067	U	0.046	U	0.04	U	0.063	U	0.44		1.2	U	0.25	U	0.136
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	pg/g	0.041	U	0.021	U	0.046	U	0.026	U	0.031	U	0.026	U	0.45		2.7	U	0.25	J	0.091
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	pg/g	0.060	U	0.02	U	0.037	U	0.039	U	0.032	U	0.023	U	0.42		1.3	U	0.14	U	0.083
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	pg/g	0.019	U	0.024	U	0.032	U	0.026	U	0.035	U	0.034	U	0.45		0.94	U	0.094	U	0.088
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	pg/g	0.029	U	0.04	U	0.064	U	0.023	U	0.045	U	0.064	U	0.45		2.5	U	0.2	U	0.128
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	pg/g	0.034	U	0.035	U	0.048	U	0.022	U	0.052	U	0.039	U	0.4		1.1	U	0.14	U	0.100
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	pg/g	0.069	U	0.048	U	0.042	J	0.042	U	0.082	U	0.054	U	1.4		13		1.1	J	0.215
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	pg/g	0.024	J	0.025	U	0.034	J	0.028	U	0.036	U	0.037	U	0.084	U	5.9	U	0.24	U	0.086
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	pg/g	0.075	U	0.031	U	0.055	U	0.067	U	0.068	J	0.064	U	0.77		35.9		4.11		0.191

Notes:

*	Only primary samples are presented in this table - field duplicates were not included.
J	The analyte was positively identified. The associated numerical result is an estimate.
U	The compound was analyzed for, but was not detected.
UJ	The analyte was not detected, value is estimated.
UR	Non-detected value, data unusable. Rejected by CH2M HILL project validator. Samples with this code were not included in the SLERA.

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo_a_anthracene	Benzo_a_pyrene	Benzo_b_fluoranthene	Benzo_g,h,i_perylene	Benzo_k_fluoranthene
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	0.2 J	4 U
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	0.2 J	4 U
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	3 J	6	12	11	9	7	7
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	2 J	5 U	3 J	2 J	10	13	5 U	9	5 U
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	2 J	5 U	5 U	2 J	5 U
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	0.5 J	4 U	0.3 J	0.2 J	0.5 J
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	2 J	5 U	2 J	1 J	8	12	5 U	9	5 U
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.7 J	2 J	6 U	2 J	11	9	6 U	5	6 U
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.2 J	0.2 J	4 U	4 U	0.3 J	4 U	0.3 J	4 U	0.5 J
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	0.8 J	5 U	5 U	0.6 J	5 U
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	0.9 J	4 U	4 U	4 U	0.3 J	0.9 J	0.3 J
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.4 J	0.4 J	0.6 J	0.4 J	0.4 J
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	1 J	1 J	1 J	1 J	0.7 J
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	0.4 J	5 U	5 U
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.4 J	6 U	6 U	6 U	6 U	0.4 J	0.4 J	6 U	0.4 J
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.6 J	7 UJ	7 U	7 U	0.6 J	0.6 J	0.8 J	7 U	0.6 J
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	1 J	0.3 J	13 U	13 U	2 J	0.5 J	1 J	0.5 J	13 UJ
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	30	3 J	1 J	3 J	7	4 J	9	2 J	5 J
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	7	1 J	0.2 J	0.5 J	7	3 J	6	1 J	12 U

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo_a_ anthracene	Benzo_a_ pyrene	Benzo_b_ fluoranthene	Benzo_g,h,i_ perylene	Benzo_k_ fluoranthene
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.4 J	9 U	9 U	3.7 U	0.5 J	0.5 J	1 J	0.2 J	9 U
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	4 J	0.5 J	0.3 J	7	3 J	3 J	5 J	1 J	13 U
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	4 J	0.4 J	0.4 J	4.6 U	3 J	2 J	4 J	0.7 J	11 U
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	9	7	5 U	0.9 J	5 U	5	5 U
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	0.4 J	5 U	5 U	5 U	5 U
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.5 J	4 U	4 U	4 U	0.4 J	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	0.2 J	4 U
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	0.9 J	6 U	6 U	6 U	0.4 J	6 U	6 U	0.4 J	6 U
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	2 J	6 U	6 U	6 U	0.9 J	1 J	6 U	0.9 J	6 UJ
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	0.9 J	11 U	11 U	11 U	11 U	11 U	11 U	0.9 J	11 U
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	3 J	5 U	5 U	5 U
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	1 J	5 U	5 U	5 U
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.9 J	12 U	12 U	12 U	0.5 J	12 U	12 U	0.5 J	12 U
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	0.7 J	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	2 J	7 U	7 U	7 U	0.3 J	7 U	7 U	0.6 J	7 U
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	6 U	6	6 U	6 U	6 U
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	6	5 U	5 U	5 U
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	5 U	7	5 U	5 U	5 U
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	5 U	5	5 U	5 U	5 U
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	0.9 J	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 UJ
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	1 J	6 U	6 U	6 U	0.5 J	6 U	6 U	6 U	6 UJ
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	0.9 J	6 U	6 U	6 U	0.5 J	6 U	6 U	0.2 J	6 UJ
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	0.9 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	5 J	11 U	11 U	2 J	6 J	3 J	11 U	3 J	11 UJ
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	4 J	8 U	8 U	0.6 J	3 J	8 U	8 U	2 J	8 UJ
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	11	8 U	8 U	8 U	4 J	3 J	8 U	5 J	8 UJ
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	9	8 U	8 U	1 J	3 J	3 J	8 U	4 J	8 UJ
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	8	7 U	7 U	7 U	3 J	3 J	7 U	4 J	7 UJ
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	1 J	9 U	9 U	9 U	0.8 J	0.8 J	9 U	9 U	9 U
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	1 J	9 U	9 U	9 U	0.7 J	9 U	9 U	0.7 J	9 U
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	3 J	7 U	7 U	7 U	2 J	3 J	3 J	3 J	2 J
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	1 J	5 U	5 U	5 U	0.8 J	5 U	5 U	0.6 J	5 U
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	2 J	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 UJ
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	0.4 J	0.4 J	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo_a_ anthracene	Benzo_a_ pyrene	Benzo_b_ fluoranthene	Benzo_g,h,i_ perylene	Benzo_k_ fluoranthene
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	0.3 J	4 U	4 U	4 U	4 U
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	0.6 J	5 U	5 U	0.4 J	5 U
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	0.4 J	0.8 J	0.4 J	5 U
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	1 J	2 J	5 U	1 J	5 U
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	18 U	18 U	18 U	0.7 J	18 U	18 U	18 U	18 U
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	1 J	16 U	16 U	16 U	0.6 J	16 U	16 U	0.6 J	16 U
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	16 U	16 U	16 U	16 U	16 U	16 U	0.6 J	16 U
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.6 J	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	1 J	12 U	12 U	12 U	0.5 J	12 U	12 U	0.5 J	12 U
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.9 J	11 U	11 U	11 U	0.9 J	11 U	11 U	11 U	11 U
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	0.2 J	6 U	6 U	0.5 J	6 U
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	1 J	8 U	8 U	8 U	0.6 J	8 U	8 U	8 U	8 U
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	0.5 J	4 U	4 U	4 U	1 J	1 J	3 J	4 U	1 J
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	1 J	2 J	3 J	6 U	2 J
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	13 U	13 U	13 U	13 U	13 U	13 U	13 U	13 U
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	10 U	10 U	10 U	0.8 J	10 U	10 U	10 U	10 U
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.4 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	15 U	15 U	15 U	1 J	15 U	15 U	1 J	15 U
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.8 J	10 U	10 U	10 U	0.8 J	10 U	10 U	10 U	10 U
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	1 J	10 U	10 U	10 U	10 U	2 J	10 U	3 J	10 U
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	0.7 J	5 U	5 U	2 J	9	9	14	6	10
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	1 J	12 U	12 U	12 U	0.5 J	12 U	12 U	12 U	12 U
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	2 J	12 U	12 U	12 U	0.9 J	12 U	12 U	0.9 J	12 U
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.7 J	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	0.2 J	5 U
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo_a_anthracene	Benzo_a_pyrene	Benzo_b_fluoranthene	Benzo_g,h,i_perylene	Benzo_k_fluoranthene
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 UJ	4 U	4 U	4 U	4 U
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	10 U	10 U	10 U	0.8 J	0.8 J	10 U	10 U	10 U
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	0.4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	0.5 J	4 U	2 J	0.3 J	1 J
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	1 J	8 U	8 U	8 U	0.7 J	8 U	8 U	0.7 J	8 U
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	11 U	11 U	11 U	1 J	11 U	11 U	0.9 J	11 U
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	1 J	12 U	12 U	12 U	0.5 J	12 U	12 U	12 U	12 U
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	1 J	11 U	11 U	11 U	0.4 J	11 U	11 U	0.4 J	11 U
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	0.4 J	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	12 U	12 U	12 U	1 J	12 U	12 U	1 J	12 U
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.6 J	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 UJ
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	2 J	8 U	8 U	8 U	0.6 J	8 U	8 U	8 U	8 UJ
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	0.9 J	4 U	4 U	4 U	0.4 J	4 U	0.9 J	0.5 J	0.7 J
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	0.5 J	0.5 J	0.7 J	6 U	0.7 J
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.2 J	5 U	5 U	5 U	5 U
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.3 J	8 U	8 U	8 U	8 UJ	8 U	8 U	8 U	8 U
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	2 J	8 U	8 U	8 U	1 J	8 U	2 J	1 J	2 J
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	4 UJ	4 UJ
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	4 J	10 U	10 U	10 U	2 J	2 J	3 J	2 J	2 J
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	2 J	12 U	12 U	12 U	2 J	2 J	3 J	2 J	2 J
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	0.9 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	1 J	9 U	9 U	9 U	1 J	1 J	2 J	9 U	1 J
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	5 U	0.4 J	5 U	1 J	12	11 J	12 J	5 J	10 J
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	3 J	11 U	11 U	11 U	3 J	2 J	3 J	1 J	3 J
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	0.8 J	5 U	5 U	5 U	0.6 J	0.6 J	0.8 J	0.8 J	0.6 J
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 UJ
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	2 J	10 U	10 U	10 U	1 J	1 J	2 J	0.8 J	2 J
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	0.8 J	10 U	10 U	10 U	0.8 J	0.8 J	10 U	10 U	10 U
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	1 J	12 U	12 U	12 U	0.9 J	0.9 J	1 J	0.5 J	0.9 J
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	5 J	11 U	11 U	0.9 J	3 J	11 U	11 U	11 U	11 U
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	2 J	10 U	10 U	10 U	1 J	1 J	2 J	10 U	1 J
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	5 UJ	5 U	5 UJ	5 U	0.2 J	5 U	5 U	5 U	5 U
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.2 J	5 U
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo_a_anthracene	Benzo_a_pyrene	Benzo_b_fluoranthene	Benzo_g,h,i_perylene	Benzo_k_fluoranthene
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	2 J	11 U	11 U	11 U	1 J	2 J	2 J	2 J	2 J
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	0.2 J	4 U	4 U	4 U	4 U
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	0.5 J	6 U	6 U	6 U	6 U
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	4 J	13 U	13 U	13 U	3 J	13 U	13 U	2 J	13 U
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.4 J	5 U	5 U	5 U	5 U
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	0.3 J	4 U	4 U	4 U	4 U
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	2 J	10 U	10 U	10 U	2 J	10 U	10 U	1 J	10 U
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.4 J	5 U	0.5 J	5 U	0.7 J
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	1 J	8 U	8 U	8 U	2 J	2 J	8 U	8 U	8 U
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	0.8 J	10 U	10 U	10 U	2 J	10 U	10 U	1 J	10 U
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.4 J	5 U	5 U	5 U	5 U
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.7 J	9 U	9 U	9 U	2 J	9 U	9 U	9 U	9 U
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	0.3 J	4 U	4 U	4 U	4 U
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	0.3 J	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.4 J	5 U	5 U	2 J	5 U
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.2 J	6 U	6 U	6 U	6 U	6 U	6 U	1 J	6 U
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	11 U	11 U	11 U	0.4 J	0.2 J	11 U	0.2 J	11 U	11 U
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	0.4 J	6 U	6 U	6 U	0.4 J	6 U	6 U	6 U	6 U
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.6 J	10 U	10 U	10 U	0.6 J	0.6 J	1 J	0.4 J	10 U
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	12 U	12 U	12 U	0.7 J	0.5 J	0.2 J	0.7 J	0.5 J	0.9 J
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.2 J
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	0.7 J	3 J	2 J	3 J	1 J	2 J
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	5 U	5 U	0.4 J	5 U
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	8 U	8 U	8 U	8 U	1 J	0.6 J	8 U	8 U	8 U
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.5 J	12 U	12 U	12 U	1 J	1 J	12 U	1 J	12 U
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	0.8 J	0.8 J	0.8 J	5 U	0.8 J
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	0.5 J	6 U	0.5 J	6 U	0.5 J
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	0.8 J	7 U	7 U	7 U	1 J	1 J	2 J	1 J	1 J
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	0.2 J	6 U	6 U	6 U	0.7 J	0.7 J	0.7 J	0.5 J	0.7 J
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	0.5 J	0.5 J	0.7 J	6 U	0.5 J
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	0.5 J	0.5 J	0.7 J	0.5 J	0.5 J
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	0.4 J	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	0.9 J	7 U	7 U	7 U	1 J	2 J	2 J	7 U	2 J
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	2 J	7 U	7 U	7 U	2 J	2 J	2 J	7 U	2 J
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	0.6 J	0.7 J	5 U	0.6 J
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	2 J	5 U	5 U	5 U	1 J	2 J	2 J	1 J	2 J
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	2 J	6 U	6 U	6 U	2 J	2 J	3 J	6 U	2 J
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.5 J	4 U	4 U	4 U	0.5 J	0.5 J	0.7 J	0.4 J	0.5 J
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	2 J	1 J	5 U	2 J	5	5	5	3 J	4 J
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	3 J	7 U	7 U	0.6 J	4 J	4 J	5 J	7 U	3 J
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	1 J	8 U	8 U	8 U	3 J	3 J	4 J	8 U	3 J
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	4 U	4 U	4 U	4 U	4 U	0.3 J	4 U
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	3 J	7 U	7 U	1 J	4 J	5 J	8	5 J	5 J
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.4 J	5 U	5 U	5 U	5 U
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	0.8 J	5 U	5 U	0.6 J	5 U
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.8 J	5 U	5 U	5 U	0.8 J	5 U	5 U	5 U	5 U
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	0.8 J	7 U	7 U	1 J	5 J	5 J	7 U	3 J	7 U
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo_a_anthracene	Benzo_a_pyrene	Benzo_b_fluoranthene	Benzo_g,h,i_perylene	Benzo_k_fluoranthene
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.2 J	6 U	6 U	6 U	0.7 J	0.9 J	6 U	0.9 J	6 U
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	0.8 J	2 J	2 J	2 J	2 J	2 J
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.4 J	11 U	11 U	0.6 J	0.6 J	0.6 J	0.9 J	0.4 J	0.6 J
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.2 J	11 U	11 U	0.4 J	0.2 J	0.4 J	0.4 J	11 U	0.2 J
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	4 U	4 U	0.7 J	4 U
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	0.2 J	0.2 J	0.2 J
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	1 J	5 U	5 U	0.2 J	1 J	1 J	1 J	0.6 J	0.8 J
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	1 J	5 U	5 U	5 U	0.8 J	0.8 J	1 J	5 U	0.6 J
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.2 J	5 U	0.4 J	5 U	0.4 J
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	0.4 J	0.8 J	0.8 J	0.4 J	0.8 J
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	6 UJ	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U	6 U
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.5 J	5 U	5 U	5 U	0.9 J	1 J	1 J	0.5 J	1 J
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	0.7 J	4 U	4 U	4 U	4 U	0.5 J	0.7 J	0.5 J	0.4 J
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	0.2 J	0.7 J	0.9 J	1 J	0.7 J	0.9 J
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	2 J	5 U	5 U	3 J	0.6 J	0.6 J	1 J	0.8 J	0.8 J
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.4 J	0.4 J	0.6 J	5 U	0.4 J
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	2 J	2 J	2 J	1 J	2 J
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	0.5 J	0.7 J	6 U	1 J	2 J	2 J	6 U	1 J	6 U
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.4 J	0.4 J	5 U	5 U	5 U
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	2 J	2 J	6 U	2 J	6 U
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.6 J	5 U	5 U	0.6 J	5 U
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.6 J	0.4 J	5 U	0.4 J	5 U
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.2 J
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	0.2 J	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	1 J	9 U	9 U	9 U	0.7 J	9 U	9 U	9 U	9 U
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	0.2 J	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	6 U	6 U	6 U	6 U	0.2 J	6 U	0.5 J
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	0.2 J	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	2 J	2 J	5	2 J	2 J
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	4 J	8 U	8 U	8 U	2 J	2 J	3 J	2 J	2 J
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	6 U	6 U	0.5 J	6 U	0.9 J	0.5 J	0.5 J
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	2 J	9 U	9 U	9 U	2 J	2 J	3 J	2 J	2 J
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	0.9 J	8 U	8 U	0.6 J	2 J	8 U	8 U	1 J	8 U
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	1 J	7 U	7 U	7 U	1 J	1 J	7 U	0.8 J	7 U
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	0.9 J	5 U	5 U	0.9 J	5 U
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	2 J	7 U	7 U	7 U	1 J	7 U	7 U	7 U	7 UJ

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo_a_ anthracene	Benzo_a_ pyrene	Benzo_b_ fluoranthene	Benzo_g,h,i_ perylene	Benzo_k_ fluoranthene
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	6 U	6 U	2 J	4 J	6	4 J	3 J
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	6 U	6 U	1 J	2 J	2 J	1 J	1 J
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	2 J	1 J	2 J	0.5 J	0.7 J
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	5 U	5 U	1 J	1 J	5 U	0.8 J	5 U
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	0.5 J	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	1 J	7 U	7 U	1 J	6	7	6	6	5 J
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	1 J	6 U	6 U	6 U	6 UJ
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	0.6 J	0.2 J	5 U	0.4 J	1 J	5 U	5 U	1 J	5 U
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	0.7 J	0.2 J	6 U	0.2 J	3 J	4 J	4 J	3 J	2 J
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.2 J	5 U	5 U	5 U	5 U
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.4 J	0.6 J	0.9 J	0.6 J	0.6 J
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	0.5 J	6 U	6 U	6 U	6 U
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	6 U	6 U	0.9 J	0.9 J	2 J	0.9 J	1 J
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	0.4 J	5 U	0.9 J	0.4 J	0.6 J
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	0.2 J	6 U	0.4 J	0.4 J	0.2 J

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Chrysene	Dibenzo_a,h_ anthracene	Fluoranthene	Fluorene	Indeno_1,2,3- cd_pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs[a] (1/2 DL)
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.7 J	5 U	0.7 J	5 U	5 U	3.7 U	0.4 J	0.5 J	24.15
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.8 U	5 U	5 U	2.5
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.2 U	5 U	5 U	2.5
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.4 J	5 U	5 U	3.8 U	5 U	5 U	27.7
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.8 U	5 U	5 U	2.5
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	8 U	8 U	0.6 J	8 U	8 U	6.6 U	8 U	8 U	47.9
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.2 U	5 U	5 U	2.5
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	5.1 U	6 U	6 U	3
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	23.95
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	3.6 U	4 U	0.2 J	22.2
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	0.2 J	3.6 U	4 U	0.2 J	22.2
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	3.7 U	5 U	5 U	29.55
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	3.6 U	4 U	0.2 J	22.2
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	0.2 J	6 U	6 U	4.7 U	6 U	0.2 J	30.25
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	2
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	0.2 J	5 U	5 U	4.3 U	5 U	0.2 J	25.25
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	13	2 J	36 J	2 J	9	4.1 U	36 J	36 J	175.55
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	0.2 J	4 U	4 U	3.6 U	0.2 J	0.2 J	20.4
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	14	3 J	27	5 U	5 U	3 J	24	25	131
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	3 J	0.6 J	5	5 U	2 J	4.3 U	3 J	4 J	36.65
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.5 J	4 U	0.3 J	4 U	4 U	3.6 U	0.2 J	0.3 J	14.4
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	13	3 J	27	3 J	11	2 J	27	24	126.5
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	14	3 J	21	2 J	7	1 J	22	20	113
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.5 J	4 U	0.3 J	4 U	4 U	3.6 U	0.2 J	0.3 J	12.4
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	1 J	5 U	1 J	5 U	0.6 J	4.3 U	0.8 J	1 J	24.25
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.5 U	4 U	4 U	2
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.6 U	4 U	4 U	2
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.5 U	4 U	4 U	2
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.6 U	4 U	4 U	2
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.7 U	5 U	5 U	2.5
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.7 J	4 U	4	4 U	0.3 J	2 J	2 J	5	25.2
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	8.6 U	4 U	4 U	26.5
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	2
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	2
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4 U	5 U	5 U	2.5
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.4 U	5 U	5 U	2.5
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.1 U	5 U	5 U	2.5
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	0.6 J	5 U	0.4 J	3.8 U	0.4 J	0.6 J	15.9
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.2 U	5 U	5 U	2.5
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	2 J	6 U	2 J	6 U	0.7 J	1 J	1 J	1 J	22.7
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	0.2 J	4 U	4 U	0.5 U	4 U	4 U	20.75
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.4 J	4 U	0.4 J	4 U	4 U	0.4 U	0.4 J	4 U	19.4
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.4 J	5 U	5 U	0.4 U	0.2 J	0.4 J	19.5
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.4 J	6 U	0.4 J	6 U	6 U	0.4 U	0.4 J	0.4 J	18
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.8 J	7 U	1 J	7 UJ	7 U	0.8 U	1 J	0.8 J	20.6
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	2 J	0.5 J	13 U	0.3 J	0.3 J	7	1 J	1 J	41.1
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	17	3 J	9	3 J	5 J	42.5 J	40.5 J	12	156
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	7	1 J	8	1 J	3 J	27	13	8	87.7

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Chrysene	Dibenzo_a,h_ anthracene	Fluoranthene	Fluorene	Indeno_1,2,3- cd_pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs[a] (1/2 DL)
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	1 J	3.7 U	2 J	0.2 J	0.7 J	3.7 U	1 J	1 J	24.4
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	5 J	1 J	9	1 J	3 J	4 J	7	8	59.3
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	5	1 J	5	0.9 J	2 J	8	6	5	47.5
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	5 U	2 J	2 J	5 U	4	3.8 U	1 J	2 J	38.8
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.7 J	5 U	0.7 J	5 U	5 U	3.7 U	0.5 J	0.7 J	22.35
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.5 J	4 U	0.4 J	4 U	4 U	3.6 U	0.7 J	0.4 J	18.2
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	0.2 J	4 U	24.2
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	4 U	0.3 J	4 U	24.3
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2.5
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	1 J	6 U	6 U	5.1 U	2 J	0.8 J	31.35
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	1 J	6 U	0.4 J	1 J	0.9 J	0.9 J	25.9
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	0.9 J	6 U	1 J	3 J	1 J	1 J	26.8
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	11 U	11 U	1 J	11 U	0.9 J	2 J	1 J	11 U	59
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	4.7 U	6 U	6 U	3
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.2 U	5 U	5 U	2.5
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4 U	5 U	5 U	2.5
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.9 U	5 U	5 U	31.45
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.9 U	5 U	5 U	32.45
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.9 U	5 U	5 U	30.45
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.8 U	5 U	5 U	2.5
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	31
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.9 J	12 U	1 J	12 U	0.9 J	2 J	0.9 J	0.9 J	48.2
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	9 U	9 U	0.7 J	9 U	9 U	2 J	0.7 J	0.4 J	44.3
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.2 U	5 U	5 U	31.6
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	31
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	0.9 J	7 U	0.9 J	7 U	7 U	3 J	2 J	0.6 J	32.2
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	0.2 J	6 U	6 U	6 U	6 U	2 J	0.5 J	6 U	35.7
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	34.5
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	2 J	0.2 J	5 U	34.2
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	33.5
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	0.3 J	7 U	0.3 J	7 U	7 U	2 J	0.6 J	7 U	34.7
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	1 J	6 U	1 J	6 U	0.5 J	2 J	2 J	1 J	28.5
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	0.7 J	6 U	0.7 J	6 U	6 U	2 J	1 J	0.7 J	26.6
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	0.5 J	6 U	0.2 J	6 U	6 U	2 J	0.7 J	6 U	30.4
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	2 J	0.2 J	6 U	35.2
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	12	11 U	15	11 U	3 J	8 J	16	8 J	97.5
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	6 J	0.6 J	6 J	8 U	2 J	6 J	9	4 J	58.6
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	8	2 J	10	8 U	8 U	10	19	5 J	83
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	7	1 J	9	8 U	8 U	10	15	6 J	74
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	7	7 U	8	7 U	3 J	9	13	5 J	69
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	2 J	9 U	3 J	9 U	0.8 J	3 J	2 J	2 J	40.6
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	1 J	9 U	2 J	9 U	0.7 J	3 J	2 J	2 J	42.2
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	3 J	7 U	4 J	7 U	3 J	4 J	4 J	4 J	43
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	2 J	5 U	2 J	5 U	0.8 J	2 J	3 J	2 J	29.3
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	3 J	7 U	5 J	7 U	7 U	10	6	5 J	57
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.6 U	4 U	4 U	2
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	0.2 J	5 U	0.4 J	5 U	5 U	3.6 U	0.4 J	5 U	25.3
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	5 U	5 UJ	5 U	5 U	5 UJ	0.9 J	5 U	5 U	30.9
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	1 J	4 U	4 U	25
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	5 U	5 UJ	5 U	5 U	5 UJ	2 J	5 U	5 U	29.9
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	2 J	5 U	5 U	32
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.9 U	5 U	5 U	2.5
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	3.8 U	0.2 J	5 U	27.3

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Chrysene	Dibenzo_a,h_ anthracene	Fluoranthene	Fluorene	Indeno_1,2,3- cd_pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs[a] (1/2 DL)
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	0.3 J	4 U	0.7 J	4 U	0.2 J	3.6 U	0.5 J	0.5 J	18.1
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	0.8 J	5 U	1 J	5 U	5 U	2 J	0.6 J	0.8 J	23.3
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	1 J	5 U	5 U	4.2 U	5 U	0.8 J	23.2
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	24
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	2 J	0.4 J	3 J	5 U	2 J	3.9 U	2 J	3 J	29.95
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.5 U	4 U	4 U	2
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	14 U	14 U	14 U	14 U	14 U	2 J	14 U	14 U	86
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.2 J	4 U	4 U	4 U	4 U	1 J	4 U	4 U	23.2
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	18 U	2 J	18 U	1 J	4 J	2 J	1 J	74.7
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	2
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	0.2 J	4 U	23.95
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	1 J	17 U	1 J	17 U	0.7 J	4 J	2 J	1 J	77
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	1 J	4 U	4 U	25
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	1 J	16 U	2 J	16 U	1 J	4 J	1 J	1 J	65.6
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	16 U	1 J	16 U	16 U	3 J	1 J	1 J	71
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	16 U	16 U	0.6 J	16 U	16 U	3 J	1 J	16 U	84.6
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	15 U	15 U	1 J	15 U	15 U	4 J	1 J	15 U	81
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	15 U	15 U	0.6 J	15 U	15 U	2 J	0.6 J	15 U	78.2
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2.5
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	0.5 J	4 U	4 U	24.5
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	4 U	4 U	4 U	2
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	1 J	12 U	1 J	12 U	12 U	2 J	1 J	1 J	48.5
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	1 J	4 U	4 U	25
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	2 J	11 U	2 J	11 U	0.9 J	2 J	2 J	1 J	48.4
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	0.7 J	4 U	4 U	24.7
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	1 J	4 U	4 U	25
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	0.7 J	6 U	0.5 J	2 J	1 J	0.7 J	26.1
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	2
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	5 U	5 UJ	5 U	5 U	5 UJ	0.7 J	5 U	5 U	30.7
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	1 J	8 U	1 J	8 U	8 U	2 J	1 J	1 J	34.6
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	2 J	4 U	3 J	4 U	2 J	2 J	0.9 J	2 J	23.9
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	2 J	6 U	2 J	6 U	2 J	2 J	0.7 J	2 J	28.7
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	13 U	1 J	13 U	13 U	3 J	1 J	1 J	59
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	2
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	1 J	10 U	2 J	10 U	10 U	3 J	2 J	1 J	44.8
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.6 U	4 U	4 U	2
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	0.2 J	4 U	23.95
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	15 U	2 J	15 U	1 J	4 J	3 J	2 J	66.5
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	0.4 J	5 U	5 U	1 J	0.2 J	0.4 J	24.5
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	10 U	2 J	10 U	10 U	2 J	1 J	1 J	43.8
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	1 J	0.2 J	4 U	23.2
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	1 J	10 U	2 J	10 U	3 J	2 J	2 J	2 J	46
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	20	2 J	9	5 U	10	2 J	2 J	7	91.5
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	1 J	4 U	4 U	25
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.9 J	12 U	1 J	12 U	12 U	3 J	1 J	0.9 J	49.3
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	1 J	4 U	4 U	25
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.4 J	10 U	0.4 J	10 U	10 U	2 J	0.4 J	0.8 J	44
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	1 J	4 U	4 U	25
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	12 U	12 U	12 U	12 U	12 U	2 J	0.5 J	12 U	68.5
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	2 J	12 U	2 J	12 U	1 J	4 J	2 J	2 J	54.9
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.7 J	9 U	0.7 J	9 U	0.4 J	2 J	0.7 J	0.7 J	40.8
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	0.2 J	5 U	28.7
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	0.2 J	5 U	5 U	1 J	0.2 J	0.4 J	22
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	1 J	4 U	4 U	25

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Chrysene	Dibenzo_a,h_ anthracene	Fluoranthene	Fluorene	Indeno_1,2,3- cd_pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs[a] (1/2 DL)
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	4 UJ	4 U	4 U	4 U	4 U	3.5 U	4 U	4 UJ	2
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	2 J	10 U	2 J	10 U	10 U	3 J	2 J	2 J	42.6
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	10 U	10 U	0.4 J	10 U	10 U	8 U	0.4 J	10 U	54.8
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	2 J	4 U	0.5 J	4 U	4 U	3.4 U	4 U	0.5 J	20.2
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	1 J	8 U	1 J	8 U	8 U	2 J	2 J	1 J	35.7
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	3 J	11 U	3 J	11 U	1 J	4 J	4 J	2 J	55.5
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	1 J	12 U	1 J	12 U	0.9 J	3 J	2 J	0.9 J	50.4
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	1 J	11 U	1 J	11 U	11 U	3 J	2 J	1 J	46.9
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	11 U	11 U	0.4 J	11 U	11 U	9 U	0.9 J	0.4 J	55.7
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	0.2 J	4 U	24
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	3.9 U	5 U	5 U	29.65
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	3 J	0.9 J	4 J	12 U	12 U	3 J	4 J	2 J	59
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	0.3 J	4 U	4 U	1 J	0.3 J	0.3 J	19.9
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	2
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.8 J	10 U	0.4 J	10 U	10 U	2 J	0.8 J	0.4 J	44.4
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.3 J	7 U	0.3 J	7 U	7 U	1 J	0.3 J	0.3 J	30.2
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.4 U	4 U	4 U	2
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	0.5 J	4 U	4 U	24.5
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	0.9 J	8 U	1 J	8 U	8 U	3 J	1 J	0.9 J	35.4
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.4 U	4 U	4 U	2
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	1 J	4 U	4 U	25
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	1 J	4 U	1 J	0.4 J	4 U	1 J	1 J	0.7 J	15.1
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.4 J	5 U	5 U	3.7 U	0.2 J	0.4 J	23.25
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.7 U	5 U	5 U	2.5
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.9 J	6 U	1 J	6 U	6 U	4.8 U	1 J	0.7 J	20.4
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.6 J	5 U	5 U	4.4 U	0.4 J	0.4 J	21.7
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.6 J	8 U	0.6 J	8 U	8 U	6.1 U	0.6 J	0.6 J	37.45
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	2 J	8 U	2 J	0.6 J	1 J	3 J	3 J	2 J	33.6
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 UJ	4 U	4 U	4 UJ	3.4 U	4 U	4 U	2
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	5 U	5 UJ	5 U	5 U	5 UJ	3.8 U	5 U	5 U	2.5
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	4 J	0.8 J	4 J	2 J	10 U	4 J	7 J	3 J	48
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.4 U	4 U	4 U	2
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	4 J	12 U	5 J	12 U	12 U	3 U	5 J	4 J	52.5
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.8 U	5 U	0.7 J	28.5
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.8 U	5 U	5 U	2.5
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	2 J	9 U	2 J	9 U	1 J	7 U	3 J	1 J	34.5
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.7 U	5 U	5 U	2.5
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	12	3 J	27	0.4 J	7 J	4.1 U	6	22	118.35
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	4 J	0.8 J	5 J	11 U	2 J	3 U	6 J	3 J	52.5
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.8 U	5 U	5 U	2.5
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	1 J	0.4 J	1 J	5 U	0.8 J	4.1 U	1 J	1 J	18.65
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	5 U	5 UJ	5 U	5 U	5 UJ	0.4 U	5 U	5 U	2.5
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	3 J	10 U	2 J	0.8 J	1 J	2 U	2 J	2 J	31.8
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	2 J	10 U	2 J	10 U	10 U	1 J	1 J	1 J	38.6
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	2 J	12 U	1 J	12 U	0.9 J	1 U	2 J	1 J	34.2
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	6 J	11 U	7 J	11 U	11 U	6 U	10	4 J	66.9
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	2 J	0.4 J	2 J	10 U	1 J	2 U	2 J	2 J	34
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.3 J	7 U	0.3 J	7 U	7 U	0.5 U	7 U	7 U	35.85
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	0.6 U	5 U	5 U	25.9
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.2 J	5 U	5 U	4.4 U	5 U	0.4 J	25.7
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	11 U	11 U	11 U	11 U	11 U	1 J	0.4 J	11 U	61.9
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.9 U	5 U	5 U	2.5

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Chrysene	Dibenzo_a,h_ anthracene	Fluoranthene	Fluorene	Indeno_1,2,3- cd_pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs[a] (1/2 DL)
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	3 J	11 U	3 J	11 U	2 J	3 J	4 J	2 J	44
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	0.2 J	4 U	4 U	3.6 U	0.2 J	0.2 J	16.9
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	0.2 J	6 U	6 U	4.6 U	6 U	0.5 J	28
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	5 J	1 J	5 J	13 U	3 J	5 J	6 J	4 J	73.5
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	0.4 J	5 U	5 U	4.3 U	5 U	0.4 J	23.95
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	0.2 J	4 U	4 U	3.6 U	4 U	0.3 J	18.9
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	4 J	10 U	3 J	10 U	10 U	3 J	3 J	2 J	52
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	0.5 J	5 U	0.4 J	5 U	5 U	3.7 U	5 U	0.4 J	19.75
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	4 J	0.3 J	4 J	8 U	8 U	2 J	3 J	3 J	44
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	3 J	10 U	4 J	10 U	10 U	2 J	2 J	3 J	51
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	4.2 U	5 U	5 U	27.9
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	3 J	9 U	4 J	9 U	9 U	2 J	2 J	3 J	47.5
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	0.2 J	4 U	4 U	3.6 U	4 U	4 U	20.6
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	9 U	9 U	3 J	9 U	9 U	1 J	2 J	9 U	51
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	4.5 U	6 U	6 U	3
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	1 J	0.4 J	1 J	5 U	2 J	3.9 U	0.4 J	0.8 J	23.05
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	3 J	6 U	1 J	4.6 U	0.7 J	2 J	33
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.5 U	4 U	4 U	2
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	0.2 J	11 U	0.2 J	11 U	0.2 J	1 J	0.4 J	0.4 J	30.5
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	1 J	6 U	6 U	4.5 U	0.9 J	0.9 J	27.15
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	1 J	0.4 J	2 J	0.2 J	1 J	1 J	1 J	1 J	28.4
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.7 J	0.2 J	0.7 J	12 U	0.5 J	4.7 U	0.7 J	0.9 J	26.35
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	10 U	10 U	10 U	10 U	0.2 J	4.2 U	0.2 J	0.2 J	47.7
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	8 U	8 U	8 U	8 U	8 U	6.2 U	8 U	8 U	4
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	3 J	6 U	9	0.5 J	1 J	4.9 U	5	6	42.65
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.4 J	5 U	5 U	4.4 J	0.4 J	0.4 J	26
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	1 J	8 U	2 J	8 U	8 U	1 J	0.6 J	2 J	32.2
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	2 J	12 U	2 J	12 U	12 U	1 J	1 J	3 J	47
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	1 J	5 U	3 J	5 U	5 U	4 U	1 J	2 J	22.2
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	1 J	6 U	0.5 J	4.7 U	0.7 J	0.9 J	22.15
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	4.8 U	6 U	6 U	3
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	2 J	0.5 J	3 J	7 U	7 U	1 J	2 J	2 J	29
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	0.9 J	6 U	2 J	6 U	0.5 J	4.8 U	0.9 J	1 J	22
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.9 J	6 U	1 J	6 U	6 U	1 J	1 J	0.7 J	18.8
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	0.7 J	6 U	1 J	6 U	0.5 J	4.7 U	1 J	0.9 J	20.15
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4 U	0.4 J	5 U	27.8
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	3 J	7 U	4 J	7 U	7 U	2 J	3 J	3 J	36
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	3 J	0.5 J	3 J	7 U	1 J	3 U	4 J	3 J	36.5
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	0.7 J	5 U	1 J	5 U	5 U	3.8 U	0.9 J	0.9 J	19.8
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	3 J	0.6 J	3 J	5 U	1 J	4.2 U	4 J	2 J	31.1
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	7 U	7 U	7 U	7 U	7 U	5.3 U	7 U	7 U	3.5
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	4 J	0.7 J	5	6 U	2 J	2 U	4 J	3 J	38
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.7 J	4 U	1 J	4 U	0.5 J	3.6 U	0.7 J	0.7 J	15.1
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	0.6 U	5 U	5 U	2.5
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	7	1 J	14	1 J	3 J	4.4 U	10	10	68.7
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	10	1 J	6	7 U	7 U	3 U	5 J	5 J	54.6
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	0.6 U	5 U	5 U	2.5
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	5 J	1 J	6 J	8 U	3 J	2 U	3 J	5 J	49
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	0.3 J	4 U	0.3 J	4 U	4 U	3.6 U	0.5 J	4 U	20.9
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	7	2 J	8	1 J	7	7	8	6	67
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	5 U	5 U	5 U	4.4 U	5 U	5 U	28
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	1 J	0.2 J	2 J	5 U	0.8 J	3.9 U	1 J	2 J	26.25
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	1 J	0.2 J	2 J	5 U	5 U	1 J	1 J	1 J	24.3
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	5 J	1 J	12	7 U	5 J	1 J	4 J	8	58.5
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	0.2 J	5 U	5 U	4.1 U	0.4 J	0.2 J	23.05

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Chrysene	Dibenzo_a,h_ anthracene	Fluoranthene	Fluorene	Indeno_1,2,3- cd_pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs[a] (1/2 DL)
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.9 J	6 U	6 U	6 U	0.9 J	4.8 U	0.7 J	6 U	29.6
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	3 J	6 U	6	0.5 J	2 J	5.2 U	5 J	4 J	35.9
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.9 J	0.4 J	1 J	11 U	0.9 J	4.4 U	0.9 J	1 J	25.8
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.4 J	0.2 J	0.4 J	11 U	0.4 J	4.6 U	0.4 J	0.4 J	22
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.1 U	5 U	5 U	2.5
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	1 J	0.4 J	1 J	4 U	4 U	3.6 U	0.5 J	1 J	21.3
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	0.4 J	4 U	0.5 J	4 U	0.2 J	3.6 U	0.4 J	0.4 J	15.9
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	2 J	0.4 J	2 J	0.4 J	1 J	1 J	2 J	3 J	19.4
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	1 J	5 U	1 J	5 U	0.6 J	2 J	2 J	1 J	20.2
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.5 J	5 U	5 U	3.7 U	0.7 J	0.4 J	17.35
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	4 U	4 U	4 U	4 U	4 U	3.6 U	4 U	4 U	2
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.8 J	5 U	1 J	5 U	0.6 J	4 U	0.8 J	1 J	18.4
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	6 U	3
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	2 J	0.4 J	4	5 U	0.9 J	3.4 U	2 J	3 J	26.6
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	1 J	4 U	0.9 J	4 U	0.4 J	3.6 U	2 J	0.7 J	18
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	1 J	0.4 J	2 J	0.2 J	0.7 J	3.8 U	1 J	1 J	15.8
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	2 J	0.2 J	1 J	5 U	0.6 J	4.1 U	3 J	1 J	22.55
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	0.8 J	5 U	0.4 J	0.4 U	0.6 J	0.6 J	14.6
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	2 J	0.4 J	1 J	5 U	2 J	4.2 U	0.6 J	1 J	24.7
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	3.9 U	5 U	5 U	2.5
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	3 J	0.5 J	6	1 J	6 U	2 J	6	5	37.7
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	0.6 J	5 U	0.2 J	4.4 U	0.4 J	0.6 J	20.2
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	2 J	6 U	4 J	6 U	6 U	1 J	2 J	3 J	34
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	0.9 J	5 U	2 J	5 U	0.6 J	4.4 U	0.4 J	1 J	24.6
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	0.8 J	5 U	5 U	4.1 U	0.8 J	1 J	21.25
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	5 UJ	5 U	5 U	5 U	5 U	1 J	5 U	5 UJ	31
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	31
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.3 U	0.2 J	5 U	27.55
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	1 J	0.2 J	6 U	34.2
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	2 J	6 U	6 U	38
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	4.7 U	6 U	6 U	3
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	31
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	1 J	6 U	6 U	37
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	31
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	0.6 J	5 U	0.8 J	5 U	5 U	1 J	0.6 J	0.4 J	21.1
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	2 J	9 U	1 J	9 U	0.7 J	3 J	1 J	1 J	40.2
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	0.7 J	6 U	6 U	1 J	0.5 J	0.5 J	24.4
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	31
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	0.2 J	6 U	0.2 J	6 U	0.2 J	1 J	0.2 J	0.2 J	20.5
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	0.2 J	2 J	5 U	5 U	32
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.4 U	5 U	5 U	2.5
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	6 U	6 U	6 U	1 J	0.2 J	6 U	34.2
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.2 U	5 U	5 U	2.5
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	4 J	1 J	0.9 J	6 U	3 J	4.6 U	6 U	1 J	34.2
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	4.1 U	5 U	5 U	2.5
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	6 U	6 U	0.2 J	6 U	6 U	4.8 U	6 U	6 U	35.6
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	0.2 J	5 U	5 U	5 U	5 U	4.1 U	5 U	5 U	29.75
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	5 J	0.7 J	5 J	8 U	2 J	4 J	6 J	4 J	49
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	0.9 J	6 U	0.7 J	6 U	0.5 J	4.7 U	2 J	0.7 J	23.55
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	3 J	9 U	5 J	9 U	2 J	3 J	4 J	4 J	46
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	1 J	9 U	2 J	9 U	9 U	7.7 U	0.8 J	2 J	45.65
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	3 J	0.6 J	4 J	0.6 J	1 J	1 J	4 J	4 J	39.2
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	2 J	7 U	2 J	7 U	1 J	2 J	2 J	2 J	33
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	1 J	5 U	2 J	5 U	0.9 J	1 J	1 J	2 J	25.4
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	3 J	7 U	3 J	7 U	7 U	3 J	4 J	2 J	40.5

Table B-6. Concentrations of PAHs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Chrysene	Dibenzo_a,h_ anthracene	Fluoranthene	Fluorene	Indeno_1,2,3- cd_pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs[a] (1/2 DL)
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	6	6 U	11	0.7 J	4 J	2 J	5	8	56.7
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	2 J	6 U	6 U	6 U	6 U	1 J	1 J	2 J	27
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	3 J	6 U	1 J	6 U	0.7 J	1 J	1 J	1 J	24.7
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	1 J	5 U	3 J	5 U	1 J	1 J	0.8 J	2 J	24.8
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	0.5 J	6 U	0.9 J	6 U	0.5 J	4.7 U	0.5 J	0.7 J	26.45
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	7	7 U	14	1 J	6	2 J	10	13	79
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	0.2 J	5 U	28.7
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	5 U	5 U	5 U	5 U	5 U	1 J	5 U	5 U	31
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	2 J	6 U	3 J	6 U	6 U	2 J	2 J	2 J	33
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	11.5 J	5 U	22.5 J	5 U	1 J	1 J	21.5 J	17.5 J	90.1
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	4 J	1 J	5	6 U	3 J	2 J	2 J	4 J	36.4
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.4 J	5 U	0.6 J	5 U	5 U	4.3 U	0.4 J	0.4 J	21.65
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	2 J	5 U	0.6 J	5 U	0.6 J	0.9 J	0.4 J	0.6 J	17
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	0.9 J	6 U	1 J	6 U	6 U	4.8 U	0.9 J	0.9 J	27.6
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	1 J	6 U	2 J	6 U	0.9 J	4.7 U	0.9 J	2 J	25.05
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.9 J	5 U	0.9 J	5 U	0.6 J	4.4 U	0.4 J	0.6 J	19.4
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.4 J	6 U	0.9 J	6 U	6 U	4.5 U	0.4 J	0.7 J	20.45

Notes:

[a] Total PAHs included the following 13 PAHs: Acenaphthene, Acenaphthylene, Anthracene, Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, and Pyrene.

* Only primary samples are presented in this table - field duplicates were not included.
J The analyte was positively identified. The associated numerical result is an estimate.
U The compound was analyzed for, but was not detected.
UJ The analyte was not detected, value is estimated.
UR Non-detected value, data unusable. Rejected by CH2M HILL project validator. Samples with this code were not included in the SLERA.

Table B-7. Concentrations of PCBs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.93 U	3.7 U	3.7 U	0.93 U	0.93 U	0.93 U	0.93 U	1.85
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	1.6 U	6.4 U	6.4 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	6.3 U	25 U	25 U	6.3 U	6.3 U	6.3 U	6.3 U	12.5
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.87 U	3.6 U	3.6 U	0.87 U	0.87 U	0.87 U	0.87 U	1.8
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.89 U	3.6 U	3.6 U	0.89 U	0.89 U	0.89 U	0.89 U	1.8
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.99 U	4 U	4 U	0.99 U	0.99 U	0.99 U	0.99 U	2
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	1 U	4 U	4 U	1 U	1 U	1 U	1 U	2
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.87 U	3.6 U	3.6 U	0.87 U	0.87 U	0.87 U	0.87 U	1.8
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.2 U	4.2 U	1.1 U	1.1 U	1.1 U	1.1 U	2.1
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.4 U	3.4 U	0.86 U	0.86 U	0.86 U	0.86 U	1.7
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.4 U	3.4 U	0.86 U	0.86 U	0.86 U	0.86 U	1.7
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.97 UJ	3.9 UJ	3.9 UJ	0.97 UJ	0.97 UJ	0.97 UJ	0.97 UJ	1.95
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	1 UJ	4 UJ	4 UJ	1 UJ	1 UJ	1 UJ	1 UJ	2
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	1 UJ	4.1 UJ	4.1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	2.05
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.8 U	4.8 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.87 U	3.6 U	3.6 U	0.87 U	0.87 U	0.87 U	0.87 U	1.8
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.89 U	3.6 U	3.6 U	0.89 U	0.89 U	0.89 U	0.89 U	1.8
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.87 U	3.6 U	3.6 U	0.87 U	0.87 U	0.87 U	0.87 U	1.8
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	1.4 U	5.7 U	5.7 U	1.4 U	1.4 U	1.4 U	1.4 U	2.85
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	1.2 U	5 U	5 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.5 U	4.5 U	1.1 U	1.1 U	1.1 U	1.1 U	2.25
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.4 U	3.4 U	0.86 U	0.86 U	0.86 U	0.86 U	1.7

Table B-7. Concentrations of PCBs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	1.3 U	5.1 U	5.1 U	1.3 U	1.3 U	1.3 U	1.3 U	2.55
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.93 U	3.7 U	3.7 U	0.93 U	0.93 U	0.93 U	0.93 U	1.85
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.87 U	3.5 U	3.5 U	0.87 U	0.87 U	0.87 U	0.87 U	1.75
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.85 UJ	3.4 UJ	3.4 UJ	0.85 UJ	0.85 UJ	0.85 UJ	0.85 UJ	1.7
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	25 J	5 U	5 U	1.2 U	1.2 U	1.2 U	9.4	41.2
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	4.4 U	18 U	18 U	4.4 U	4.4 U	4.4 U	4.4 U	9
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	2.3 U	9.3 U	9.3 U	2.3 U	2.3 U	2.3 U	2.3 U	4.65
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	2 U	8.1 U	8.1 U	2 U	2 U	2 U	2 U	4.05
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	2 U	7.9 U	7.9 U	2 U	2 U	2 U	2 U	3.95
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	1.9 U	7.6 U	7.6 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	1.9 U	7.8 U	7.8 U	1.9 U	1.9 U	1.9 U	1.9 U	3.9
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	1.9 U	7.6 U	7.6 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	1.9 U	7.5 U	7.5 U	1.9 U	1.9 U	1.9 U	1.9 U	3.75
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	1.9 U	7.6 U	7.6 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.4 U	9.4 U	2.3 U	2.3 U	2.3 U	2.3 U	4.7
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	1.8 U	7.1 U	7.1 U	1.8 U	1.8 U	1.8 U	1.8 U	3.55
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	1.5 U	5.9 U	5.9 U	1.5 U	1.5 U	1.5 U	1.5 U	2.95
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	1.3 U	5.1 U	5.1 U	1.3 U	1.3 U	1.3 U	1.3 U	2.55
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	2.1 U	8.6 U	8.6 U	2.1 U	2.1 U	2.1 U	2.1 U	4.3
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	1.6 U	6.2 U	6.2 U	1.6 U	1.6 U	1.6 U	1.6 U	3.1
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	1.6 U	6.4 U	6.4 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	1.6 U	6.6 U	6.6 U	1.6 U	1.6 U	1.6 U	1.6 U	3.3
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	1.5 U	5.9 U	5.9 U	1.5 U	1.5 U	1.5 U	1.5 U	2.95
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	1.9 U	7.6 U	7.6 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	1.7 U	6.8 U	6.8 U	1.7 U	1.7 U	1.7 U	1.7 U	3.4
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	1.4 U	5.5 U	5.5 U	1.4 U	1.4 U	1.4 U	1.4 U	2.75
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	1.3 U	5.3 U	5.3 U	1.3 U	1.3 U	1.3 U	1.3 U	2.65
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	0.87 U	3.5 U	3.5 U	0.87 U	0.87 U	0.87 U	0.87 U	1.75
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	0.89 U	3.6 U	3.6 U	0.89 U	0.89 U	0.89 U	0.89 U	1.8
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	0.91 U	3.6 U	3.6 U	0.91 U	0.91 U	0.91 U	0.91 U	1.8
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	0.87 U	3.6 U	3.6 U	0.87 U	0.87 U	0.87 U	0.87 U	1.8
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	0.93 U	3.7 U	3.7 U	0.93 U	0.93 U	0.93 U	0.93 U	1.85
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	0.97 U	3.9 U	3.9 U	0.97 U	0.97 U	0.97 U	0.97 U	1.95
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8

Table B-7. Concentrations of PCBs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.84 UJ	3.4 UJ	3.4 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	1.7
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	2.8 UJ	11 UJ	11 UJ	2.8 UJ	2.8 UJ	2.8 UJ	2.8 UJ	5.5
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.85 UJ	3.4 UJ	3.4 UJ	0.85 UJ	0.85 UJ	0.85 UJ	0.85 UJ	1.7
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	3.5 UR	14 UR	14 UR	3.5 UR	3.5 UR	3.5 UR	3.5 UR	7
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	3.3 UR	13 UR	13 UR	3.3 UR	3.3 UR	3.3 UR	3.3 UR	6.5
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	0.84 UJ	3.4 UJ	3.4 UJ	0.84 UJ	0.84 UJ	0.84 UJ	0.84 UJ	1.7
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	3.2 U	13 U	13 U	3.2 U	3.2 U	3.2 U	3.2 U	6.5
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	3.1 U	12 U	12 U	3.1 U	3.1 U	3.1 U	3.1 U	6
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	3.1 UJ	12 UJ	12 UJ	3.1 UJ	3.1 UJ	3.1 UJ	3.1 UJ	6
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	2.9 UJ	12 UJ	12 UJ	2.9 UJ	2.9 UJ	2.9 UJ	2.9 UJ	6
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	2.9 U	12 U	12 U	2.9 U	2.9 U	2.9 U	2.9 U	6
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.4 U	9.4 U	2.3 U	2.3 U	2.3 U	2.3 U	4.7
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.1 U	9.1 U	2.3 U	2.3 U	2.3 U	2.3 U	4.55
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.83 UJ	3.3 UJ	3.3 UJ	0.83 UJ	0.83 UJ	0.83 UJ	0.83 UJ	1.65
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	1.2 UJ	4.9 UJ	4.9 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	2.45
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.83 UJ	3.4 UJ	3.4 UJ	0.83 UJ	0.83 UJ	0.83 UJ	0.83 UJ	1.7
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	0.94 U	3.8 U	3.8 U	0.94 U	0.94 U	0.94 U	0.94 U	1.9
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	3.2 U	13 U	13 U	3.2 U	3.2 U	3.2 U	3.2 U	6.5
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	1.7 U	6.9 U	6.9 U	1.7 U	1.7 U	1.7 U	1.7 U	3.45
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	1.2 UJ	4.7 UJ	4.7 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	2.35
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	2.6 UJ	10 UJ	10 UJ	2.6 UJ	2.6 UJ	2.6 UJ	2.6 UJ	5
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.85 UJ	3.4 UJ	3.4 UJ	0.85 UJ	0.85 UJ	0.85 UJ	0.85 UJ	1.7
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	2 UJ	8.1 UJ	8.1 UJ	2 UJ	2 UJ	2 UJ	2 UJ	4.05
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.88 UJ	3.6 UJ	3.6 UJ	0.88 UJ	0.88 UJ	0.88 UJ	0.88 UJ	1.8
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	3 UR	12 UR	12 UR	3 UR	3 UR	3 UR	3 UR	6
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	2 UJ	8 UJ	8 UJ	2 UJ	2 UJ	2 UJ	2 UJ	4
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	3.9 U	16 U	16 U	3.9 U	3.9 U	3.9 U	3.9 U	8
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	2.2 U	8.8 U	8.8 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	2.3 UJ	9.2 UJ	9.2 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.3 UJ	4.6
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	2 U	8.2 U	8.2 U	2 U	2 U	2 U	2 U	4.1
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.97 U	3.9 U	3.9 U	0.97 U	0.97 U	0.97 U	0.97 U	1.95
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.2 U	9.2 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	1.8 U	7.3 U	7.3 U	1.8 U	1.8 U	1.8 U	1.8 U	3.65
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	1.1 UJ	4.3 UJ	4.3 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	2.15
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7

Table B-7. Concentrations of PCBs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	1.9 U	7.7 U	7.7 U	1.9 U	1.9 U	1.9 U	1.9 U	3.85
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	2 U	8.2 U	8.2 U	2 U	2 U	2 U	2 U	4.1
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.4 U	3.4 U	0.86 U	0.86 U	0.86 U	0.86 U	1.7
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.6 U	6.6 U	6.6 U	1.6 U	1.6 U	1.6 U	1.6 U	3.3
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.1 U	9.1 U	2.3 U	2.3 U	2.3 U	2.3 U	4.55
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.2 U	9.2 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	2.1 U	8.6 U	8.6 U	2.1 U	2.1 U	2.1 U	2.1 U	4.3
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	2.2 U	8.8 U	8.8 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.94 U	3.8 U	3.8 U	0.94 U	0.94 U	0.94 U	0.94 U	1.9
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.3 U	9.3 U	2.3 U	2.3 U	2.3 U	2.3 U	4.65
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	2 U	8 U	8 U	2 U	2 U	2 U	2 U	4
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	1.4 U	5.6 U	5.6 U	1.4 U	1.4 U	1.4 U	1.4 U	2.8
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.83 U	3.4 U	3.4 U	0.83 U	0.83 U	0.83 U	0.83 U	1.7
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	0.87 U	3.5 U	3.5 U	0.87 U	0.87 U	0.87 U	0.87 U	1.75
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	1.6 U	6.3 U	6.3 U	1.6 U	1.6 U	1.6 U	1.6 U	3.15
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.3 U	9.3 U	2.3 U	2.3 U	2.3 U	2.3 U	4.65
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.91 U	3.6 U	3.6 U	0.91 U	0.91 U	0.91 U	0.91 U	1.8
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	1.5 U	5.9 U	5.9 U	1.5 U	1.5 U	1.5 U	1.5 U	2.95
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	1.6 U	6.4 U	6.4 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	1.9 U	7.6 U	7.6 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.84 U	3.4 U	3.4 U	0.84 U	0.84 U	0.84 U	0.84 U	1.7
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.2 U	9.2 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.93 U	3.7 U	3.7 U	0.93 U	0.93 U	0.93 U	0.93 U	1.85
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	0.93 U	3.7 U	3.7 U	0.93 U	0.93 U	0.93 U	0.93 U	1.85
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	1.7 U	7 U	7 U	1.7 U	1.7 U	1.7 U	1.7 U	3.5
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.98 U	4 U	4 U	0.98 U	0.98 U	0.98 U	0.98 U	2
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	2.1 U	8.4 U	8.4 U	2.1 U	2.1 U	2.1 U	2.1 U	4.2
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	2.1 U	8.6 U	8.6 U	2.1 U	2.1 U	2.1 U	2.1 U	4.3
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	0.94 U	3.8 U	3.8 U	0.94 U	0.94 U	0.94 U	0.94 U	1.9
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	2 U	7.9 U	7.9 U	2 U	2 U	2 U	2 U	3.95
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	2.1 U	8.4 U	8.4 U	2.1 U	2.1 U	2.1 U	2.1 U	4.2
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	2.4 U	9.6 U	9.6 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	2.2 U	9 U	9 U	2.2 U	2.2 U	2.2 U	2.2 U	4.5
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	2.1 U	8.4 U	8.4 U	2.1 U	2.1 U	2.1 U	2.1 U	4.2
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.4 U	5.5 U	5.5 U	1.4 U	1.4 U	1.4 U	1.4 U	2.75
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.93 U	3.8 U	3.8 U	0.93 U	0.93 U	0.93 U	0.93 U	1.9
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	2.2 U	8.8 U	8.8 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	2.3 U	9.1 U	9.1 U	2.3 U	2.3 U	2.3 U	2.3 U	4.55

Table B-7. Concentrations of PCBs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	2.6 U	10 U	10 U	2.6 U	2.6 U	2.6 U	2.6 U	5
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	2 U	7.9 U	7.9 U	2 U	2 U	2 U	2 U	3.95
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	1.7 U	6.7 U	6.7 U	1.7 U	1.7 U	1.7 U	1.7 U	3.35
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	2 U	7.9 U	7.9 U	2 U	2 U	2 U	2 U	3.95
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	1.8 U	7.1 U	7.1 U	1.8 U	1.8 U	1.8 U	1.8 U	3.55
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	1.7 U	6.9 U	6.9 U	1.7 U	1.7 U	1.7 U	1.7 U	3.45
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.5 U	4.5 U	1.1 U	1.1 U	1.1 U	1.1 U	2.25
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.85 U	3.4 U	3.4 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.98 U	3.9 U	3.9 U	0.98 U	0.98 U	0.98 U	0.98 U	1.95
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.6 U	4.6 U	1.2 U	1.2 U	1.2 U	1.2 U	2.3
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	1.6 U	6.1 U	6.1 U	1.6 U	1.6 U	1.6 U	1.6 U	3.05
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	1.2 UJ	4.8 UJ	4.8 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	2.4
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	1.6 U	6.4 U	6.4 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	2.4 UJ	9.6 UJ	9.6 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	4.8
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.99 U	4 U	4 U	0.99 U	0.99 U	0.99 U	0.99 U	2
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.6 U	4.6 U	1.2 U	1.2 U	1.2 U	1.2 U	2.3
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	1.3 UJ	5.3 UJ	5.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	2.65
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	1.2 UJ	4.7 UJ	4.7 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	2.35
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.98 U	4 U	4 U	0.98 U	0.98 U	0.98 U	0.98 U	2
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	1.4 U	5.8 U	5.8 U	1.4 U	1.4 U	1.4 U	1.4 U	2.9
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	1.3 U	5.2 U	5.2 U	1.3 U	1.3 U	1.3 U	1.3 U	2.6
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	0.93 U	3.8 U	3.8 U	0.93 U	0.93 U	0.93 U	0.93 U	1.9
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	1.3 U	5.2 U	5.2 U	1.3 U	1.3 U	1.3 U	1.3 U	2.6
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.8 U	4.8 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.88 UJ	3.6 UJ	3.6 UJ	0.88 UJ	0.88 UJ	0.88 UJ	0.88 UJ	1.8
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	0.97 U	3.9 U	3.9 U	0.97 U	0.97 U	0.97 U	0.97 U	1.95
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	1.4 U	5.7 U	5.7 U	1.4 U	1.4 U	1.4 U	1.4 U	2.85
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	0.98 U	4 U	4 U	0.98 U	0.98 U	0.98 U	0.98 U	2
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	1.8 U	7.3 U	7.3 U	1.8 U	1.8 U	1.8 U	1.8 U	3.65
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	1.4 U	5.5 U	5.5 U	1.4 U	1.4 U	1.4 U	1.4 U	2.75
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.95 U	3.8 U	3.8 U	0.95 U	0.95 U	0.95 U	0.95 U	1.9
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.98 U	4 U	4 U	0.98 U	0.98 U	0.98 U	0.98 U	2
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	1.3 U	5.3 U	5.3 U	1.3 U	1.3 U	1.3 U	1.3 U	2.65
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	1 U	4 U	4 U	1 U	1 U	1 U	1 U	2
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.8 U	4.8 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4

Table B-7. Concentrations of PCBs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	1.3 U	5.2 U	5.2 U	1.3 U	1.3 U	1.3 U	1.3 U	2.6
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.5 U	4.5 U	1.1 U	1.1 U	1.1 U	1.1 U	2.25
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.89 U	3.6 U	3.6 U	0.89 U	0.89 U	0.89 U	0.89 U	1.8
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	0.88 U	3.6 U	3.6 U	0.88 U	0.88 U	0.88 U	0.88 U	1.8
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.9 UJ	3.6 UJ	3.6 UJ	0.9 UJ	0.9 UJ	0.9 UJ	0.9 UJ	1.8
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.86 U	3.5 U	3.5 U	0.86 U	0.86 U	0.86 U	0.86 U	1.75
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.97 U	3.9 U	3.9 U	0.97 U	0.97 U	0.97 U	0.97 U	1.95
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	1.1 UJ	4.4 UJ	4.4 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	2.2
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.9 U	3.6 U	3.6 U	0.9 U	0.9 U	0.9 U	0.9 U	1.8
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	0.87 U	3.6 U	3.6 U	0.87 U	0.87 U	0.87 U	0.87 U	1.8
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.92 U	3.7 U	3.7 U	0.92 U	0.92 U	0.92 U	0.92 U	1.85
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.8 U	4.8 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.2 U	4.2 U	1.1 U	1.1 U	1.1 U	1.1 U	2.1
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	0.96 U	3.9 U	3.9 U	0.96 U	0.96 U	0.96 U	0.96 U	1.95
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	1.8 U	7.4 U	7.4 U	1.8 U	1.8 U	1.8 U	1.8 U	3.7
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	1.2 U	5 U	5 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.5 U	4.5 U	1.1 U	1.1 U	1.1 U	1.1 U	2.25
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	1.2 U	5 U	5 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	1 U	4 U	4 U	1 U	1 U	1 U	1 U	2
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	1 U	4 U	4 U	1 U	1 U	1 U	1 U	2
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	1.7 U	6.7 U	6.7 U	1.7 U	1.7 U	1.7 U	1.7 U	3.35
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	1.7 U	6.8 U	6.8 U	1.7 U	1.7 U	1.7 U	1.7 U	3.4
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	1.9 U	7.6 U	7.6 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	1.5 U	5.9 U	5.9 U	1.5 U	1.5 U	1.5 U	1.5 U	2.95
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	1.3 U	5.4 U	5.4 U	1.3 U	1.3 U	1.3 U	1.3 U	2.7
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	1.4 U	5.6 U	5.6 U	1.4 U	1.4 U	1.4 U	1.4 U	2.8
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.9 U	4.9 U	1.2 U	1.2 U	1.2 U	1.2 U	2.45

Table B-7. Concentrations of PCBs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type*	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	1.2 U	5 U	5 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	1.2 U	5 U	5 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	0.99 U	4 U	4 U	0.99 U	0.99 U	0.99 U	0.99 U	2
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.6 U	4.6 U	1.1 U	1.1 U	1.1 U	1.1 U	2.3
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	1.3 U	5.3 U	5.3 U	1.3 U	1.3 U	1.3 U	1.3 U	2.65
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	1 U	4.1 U	4.1 U	1 U	1 U	1 U	1 U	2.05
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	1.2 U	5 U	5 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.8 U	4.8 U	1.2 U	1.2 U	1.2 U	1.2 U	2.4
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	1 U	4.2 U	4.2 U	1 U	1 U	1 U	1 U	2.1
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	1.2 U	4.7 U	4.7 U	1.2 U	1.2 U	1.2 U	1.2 U	2.35
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.3 U	4.3 U	1.1 U	1.1 U	1.1 U	1.1 U	2.15
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	1.1 U	4.4 U	4.4 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2

Notes:

* Only primary samples are presented in this table - field duplicates were not included.
J The analyte was positively identified. The associated numerical result is an estimate.
U The compound was analyzed for, but was not detected.
UJ The analyte was not detected, value is estimated.
UR Non-detected value, data unusable. Rejected by CH2M HILL project validator. Samples with this code were not included in the SLERA.

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,4'-DDD	4,4'-DDD	Total DDD (1/2 DL)	2,4'-DDE	4,4'-DDE	Total DDE (1/2 DL)	2,4'-DDT	4,4'-DDT	Total DDT (1/2 DL)	Total DDx (1/2 DL)
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.85 J	1.195	0.46	1.5 J	1.96	3.85
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.12 J	0.485	0.73 U	0.19 J	0.555	1.77
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.74 U	0.2 J	0.57	2.05
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.83 U	0.415	0.56 J	1.6 J	2.16	1.7	6.3	8	10.99
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.32 J	0.69	0.41 J	1.4 J	1.81	3.24
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.28 J	0.655	2.16
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	0.18 J	0.83	3.43
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.74 J	2.7	3.44	2.7	10	12.7	16.95
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	5.1 U	2.1 J	4.65	17 J	63	80	57	200 J	257	341.65
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.37
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.36
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.37
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.47
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.8 U	0.8 U	0.4	0.8 U	0.8 U	0.4	0.8 U	0.2 J	0.6	2.20
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.41
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.42
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.41
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.47
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.43
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.33 J	1.5	1.83	3.23
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.29 J	0.635	2.02
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.5 J	0.855	0.45 J	1.3 J	1.75	3.32
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.37
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.26 J	0.605	1.99
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.12 J	0.46	1.82
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.19 J	0.535	1.92
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.395
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.27 J	0.7	2.42
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.41
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.81 J	1.185	2.69
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.82 U	0.25 J	0.66	2.30
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.97 U	0.97 U	0.485	0.97 U	0.97 U	0.485	0.97 U	0.23 J	0.715	2.66
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.36
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.42
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.45
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.9 U	0.9 U	0.45	0.9 U	0.9 U	0.45	0.9 U	0.9 U	0.45	0.45

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,4'-DDD	4,4'-DDD	Total DDD (1/2 DL)	2,4'-DDE	4,4'-DDE	Total DDE (1/2 DL)	2,4'-DDT	4,4'-DDT	Total DDT (1/2 DL)	Total DDx (1/2 DL)
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.36
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.45
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.38
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.72 U	0.72 U	0.36	0.36
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.36 J	0.75	2.31
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	5.2	5.7	1 U	9.6	10.1	16.80
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.4 J	0.84	2.60
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.44
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	0.90
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.465
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.41
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.39
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.39
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.39
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.38
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.38
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	1.4 U	1.4 U	0.7	1.4 U	0.43	1.13	1.4 U	1.4 U	0.7	3.93
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.42
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.41
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	0.60
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.47
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.43
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.42
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.43
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	0.60
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	0.95 U	0.95 U	0.475	0.95 U	0.95 U	0.475	0.95 U	0.95 U	0.475	0.48
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.47
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.44
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	0.85
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	0.60
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	0.60
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1 J	1.8	5.00
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	1.4 U	1.4 U	0.7	1.4 U	0.16 J	0.86	1.4 U	1.4 U	0.7	3.66
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.42
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.16 J	0.505	0.69 U	0.69 U	0.345	1.89
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	0.72 U	0.72 U	0.36	0.32 J	0.81	1.13	0.72 U	2.6	2.96	4.81
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.37
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.38
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.39

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,4'-DDD	4,4'-DDD	Total DDD (1/2 DL)	2,4'-DDE	4,4'-DDE	Total DDE (1/2 DL)	2,4'-DDT	4,4'-DDT	Total DDT (1/2 DL)	Total DDx (1/2 DL)
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.39
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.37
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.41
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.32 J	0.74 J	1.06	0.92	2.6 J	3.52	5.40
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.39
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	2.2 U	2.2 U	1.1	2.2 U	2.2 U	1.1	2.2 U	2.2 U	1.1	1.10
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.08 J	0.42	1.78
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	2.8 U	2.8 U	1.4	2.8 U	2.8 U	1.4	2.8 U	2.8 U	1.4	1.40
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	2.7 U	2.7 U	1.35	2.7 U	2.7 U	1.35	2.7 U	2.7 U	1.35	1.35
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	2.6 U	2.6 U	1.3	2.6 U	2.6 U	1.3	2.6 U	2.6 U	1.3	1.30
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	2.5 U	2.5 U	1.25	2.5 U	2.5 U	1.25	2.5 U	2.5 U	1.25	1.25
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	2.5 UJ	2.5 UJ	1.25	2.5 UJ	2.5 UJ	1.25	2.5 UJ	2.5 UJ	1.25	1.25
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	2.4 U	2.4 U	1.2	2.4 U	2.4 U	1.2	2.4 U	2.4 U	1.2	1.20
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	2.4 U	2.4 U	1.2	2.4 U	2.4 U	1.2	2.4 U	2.4 U	1.2	1.20
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.42
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.67 U	0.335	0.67 U	0.67 U	0.335	0.09 J	0.34 J	0.43	1.77
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	1.8 U	2.1	3	1.8 U	1.8 U	0.9	6.5 J	20	26.5	31.30
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.67 U	0.335	0.67 U	0.67 U	0.335	0.67 U	0.15 J	0.485	1.83
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.67 U	0.335	0.67 U	0.67 U	0.335	0.67 U	0.67 U	0.335	0.34
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.97 U	0.97 U	0.485	0.97 U	0.97 U	0.485	0.97 U	0.97 U	0.485	0.49
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.67 U	0.335	0.67 U	0.67 U	0.335	0.67 U	0.67 U	0.335	0.34
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.38
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.47
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	2 U	2 U	1	2 U	2 U	1	2 U	2 U	1	1.00
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	2.4 U	2.4 U	1.2	2.4 U	2.4 U	1.2	2.4 U	2.4 U	1.2	1.20
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.35 J	1.15	1.6 U	0.46 J	1.26	1.6 U	1.6 U	0.8	4.01
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.44
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	0.15 J	0.95	4.15
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	0.39	1.34	1.9 U	1.9 U	0.95	5.14
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	1.5 U	1.5 U	0.75	1.5 U	1.5 U	0.75	1.5 U	0.4 J	1.15	4.15

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,4'-DDD	4,4'-DDD	Total DDD (1/2 DL)	2,4'-DDE	4,4'-DDE	Total DDE (1/2 DL)	2,4'-DDT	4,4'-DDT	Total DDT (1/2 DL)	Total DDx (1/2 DL)
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.16 J	0.59	2.31
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.094 J	0.434	1.79
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	0.90
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	0.85
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	1.8 U	0.49 J	1.39	4.99
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.38
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.072 J	0.412	0.68 U	0.1 J	0.44	1.53
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	2 J	2.8	6.00
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.67 U	0.335	0.67 U	0.67 U	0.335	0.67 U	0.26 J	0.595	1.94
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.19 J	0.54	1.94
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.16 J	0.51	1.91
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.19 J	1.3	1.49	2.97
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.37
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.94 U	0.47	0.94 U	0.88 J	1.35	0.59 J	3.2	3.79	6.08
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.09 J	0.84	0.93	0.52 J	2.9	3.42	5.06
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	1.2 U	1.2 U	0.6	0.60
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.1 J	0.445	1.83
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.26 J	0.625	2.09
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.68 U	0.68 U	0.34	0.34
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.14 J	0.485	1.87
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.2 J	0.575	0.35 J	1.1 J	1.45	2.78
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.38
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	1.4 U	1.4 U	0.7	1.4 U	1.4 U	0.7	1.4 U	1.4 U	0.7	0.70
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.22 J	0.59	0.32 J	0.98 J	1.3	2.63
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	0.85
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.37
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	0.85
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.76 U	0.76 U	0.38	0.38
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	0.85
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	1.9 U	1.9 U	0.95	0.95
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	0.90
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	1.7 U	1.7 U	0.85	0.85
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,4'-DDD	4,4'-DDD	Total DDD (1/2 DL)	2,4'-DDE	4,4'-DDE	Total DDE (1/2 DL)	2,4'-DDT	4,4'-DDT	Total DDT (1/2 DL)	Total DDx (1/2 DL)
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.38
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	0.90
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.39
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	1.8 U	1.8 U	0.9	0.90
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.92 U	0.92 U	0.46	0.92 U	0.92 U	0.46	0.92 U	0.92 U	0.46	0.46
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	2 U	2 U	1	2 U	2 U	1	2 U	2 U	1	1.00
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.37
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.42
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	1.4 U	1.4 U	0.7	1.4 U	1.4 U	0.7	1.4 U	1.4 U	0.7	0.70
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.7 U	0.7 U	0.35	0.35
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	1.4 U	1.4 U	0.7	1.4 U	1.4 U	0.7	0.51 J	3.1 J	3.61	6.41
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.44
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.39
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.9 U	0.9 U	0.45	0.9 U	0.9 U	0.45	0.9 U	0.9 U	0.45	0.45
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.69 U	0.69 U	0.345	0.35
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.44
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.47
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.42
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	0.3 J	0.9	0.7 J	5.7	6.4	8.50
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.96 U	0.48	0.96 U	0.96 U	0.48	0.96 U	0.16 J	0.64	2.56
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	0.2 J	0.85	3.45
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	1.9 UJ	1.9 UJ	0.95	1.9 UJ	1.9 UJ	0.95	1.9 UJ	1.9 UJ	0.95	0.95
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.8 U	0.8 U	0.4	0.8 U	0.8 U	0.4	0.8 U	0.15 J	0.55	2.15
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.93 U	0.14 J	0.605	2.47
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.95 U	0.475	0.95 U	0.95 U	0.475	0.95 U	0.42 J	0.895	2.80
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	0.15 J	0.7	2.90
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.47
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.47
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.47
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	0.2 J	0.8	1.2 U	0.64 J	1.24	3.24
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	0.18 J	0.68	1 U	0.48 J	0.98	2.66
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.75 U	0.75 U	0.375	0.38
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.42
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.96 U	0.48	0.96 U	0.96 U	0.48	0.96 U	0.96 U	0.48	0.48
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.38 J	0.735	2.16
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.29 J	0.725	2.47
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	0.17 J	1.1 U	0.72	1.1 U	0.46 J	1.01	2.83
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	1.5 U	1.5 U	0.75	1.5 U	1.5 U	0.75	1.5 U	1.5 U	0.75	0.75
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.36
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,4'-DDD	4,4'-DDD	Total DDD (1/2 DL)	2,4'-DDE	4,4'-DDE	Total DDE (1/2 DL)	2,4'-DDT	4,4'-DDT	Total DDT (1/2 DL)	Total DDx (1/2 DL)
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.39
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.79 U	0.79 U	0.395	0.40
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.41
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.96 U	0.48	0.96 U	0.96 U	0.48	0.96 U	0.96 U	0.48	0.48
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.45
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.4 J	0.805	2.43
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.72 U	0.36	0.72 U	0.19 J	0.55	0.72 U	0.72 U	0.36	1.99
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.57 J	0.925	2.35
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.31 J	0.7	2.26
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.27 J	0.54 J	0.81	2.43
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.28 J	0.645	2.11
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.7 U	0.35	0.7 U	0.072 J	0.422	0.12 J	0.29 J	0.41	1.53
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.38 J	0.77	2.33
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.88 UJ	0.88 UJ	0.44	0.88 UJ	0.46 J	0.44	0.26 J	1.5 J	1.76	3.54
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.73 U	0.365	0.73 U	0.73 U	0.365	0.73 U	0.2 J	0.565	2.03
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.71 U	0.355	0.71 U	0.71 U	0.355	0.71 U	0.32 J	0.675	2.10
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.74 U	0.37	0.74 U	0.74 U	0.37	0.74 U	0.31 J	0.68	2.16
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.41
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.39
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.84 U	0.84 U	0.42	0.42
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.78 U	0.78 U	0.39	0.39
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.95 U	0.475	0.95 U	0.95 U	0.475	0.95 U	0.95 U	0.475	0.48
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.43
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	0.91 U	0.91 U	0.455	0.91 U	0.91 U	0.455	0.91 U	0.91 U	0.455	0.46
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.405
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.43
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.83 U	0.83 U	0.415	0.42
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.85 U	0.85 U	0.425	0.43
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.44
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	0.91 U	0.91 U	0.455	0.91 U	0.91 U	0.455	0.91 U	0.91 U	0.455	0.46
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.93 U	0.93 U	0.465	0.47
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	0.92 U	0.92 U	0.46	0.92 U	0.92 U	0.46	0.92 U	0.92 U	0.46	0.46
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.77 U	0.77 U	0.385	0.39
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	1.5 U	1.5 U	0.75	1.5 U	1.5 U	0.75	1.5 U	1.5 U	0.75	0.75
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.41
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	0.9 U	0.9 U	0.45	0.9 U	0.9 U	0.45	0.9 U	0.9 U	0.45	0.45
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.48 J	0.54 J	1.02	0.86 U	1.4	1.83	3.71
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	0.19 J	0.69	1 U	1 U	0.5	2.69
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.83 U	0.415	0.83 U	0.88 J	1.295	0.83 U	0.83 U	0.415	2.96
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.89 U	10	10.445	12.23
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.41
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.95 U	0.475	0.95 U	0.95 U	0.475	0.95 U	0.95 U	0.475	0.48
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.81 U	0.81 U	0.405	0.41
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	1.3 U	1.3 U	0.65	0.65
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	0.92 U	0.92 U	0.46	0.92 U	0.92 U	0.46	0.92 U	0.92 U	0.46	0.46

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,4'-DDD	4,4'-DDD	Total DDD (1/2 DL)	2,4'-DDE	4,4'-DDE	Total DDE (1/2 DL)	2,4'-DDT	4,4'-DDT	Total DDT (1/2 DL)	Total DDx (1/2 DL)
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	1.4 U	1.4 U	0.7	1.4 U	1.4 U	0.7	1.4 U	1.4 U	0.7	0.70
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	1.6 U	1.6 U	0.8	0.80
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	1.2 U	1.2 U	0.6	1.2 U	0.36 J	0.96	1.2 U	1.2 U	0.6	3.36
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	0.12 J	0.67	1.1 U	1.1 U	0.55	2.87
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.89 U	0.89 U	0.445	0.45
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	0.97 U	0.97 U	0.485	0.97 U	0.57 J	1.055	0.97 U	0.97 U	0.485	3.00
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	0.28 J	0.78	2.78
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	0.8 U	0.8 U	0.4	0.8 U	0.8 U	0.4	0.8 U	0.23 J	0.63	2.23
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	0.91 U	0.91 U	0.455	0.91 U	0.91 U	0.455	0.91 U	0.91 U	0.455	0.46
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	1.1 U	1.1 U	0.55	0.55
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.82 U	0.82 U	0.41	0.41
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	1 U	1 U	0.5	1 U	1 U	0.5	1 U	1 U	0.5	0.50
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.85 U	0.12 J	0.545	0.85 U	0.85 U	0.425	2.25
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.96 U	0.48	0.96 U	0.96 U	0.48	0.96 U	0.96 U	0.48	0.48
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.85 U	0.425	0.48 J	0.36 J	0.84	0.85 U	0.85 U	0.425	2.54
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.87 U	0.87 U	0.435	0.44
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.95 U	0.475	0.95 U	0.65 J	1.125	0.95 U	0.95 U	0.475	3.03
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.94 U	0.94 U	0.47	0.47
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.86 U	0.86 U	0.43	0.43
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.88 U	0.88 U	0.44	0.44

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aldrin	Atrazine	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Oxychlordane	Total Chlordane (1/2 DL)
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.36 U	91 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.37 U	92 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.63 U	160 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.315
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	2.6 U	130 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	1.3
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.36 U	90 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.36 U	86 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.4 U	99 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.35 U	87 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.37 U	91 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.23 J	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.39 U	98 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.48 U	120 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.24
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.35 U	86 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.35 U	87 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.56 U	140 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.28
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.5 U	130 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aldrin	Atrazine	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Oxychlordane	Total Chlordane (1/2 DL)
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.34 U	120 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.36 U	89 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.5 U	130 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.36 U	90 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.38 U	95 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	0.49 U	120 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.245
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	0.87 U	220 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.435
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	0.46 U	110 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	0.39 U	97 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	0.38 U	95 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	0.38 U	96 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	0.38 U	95 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.93 U	230 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.465
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	0.7 U	180 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	0.42 U	100 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	0.58 U	150 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.29
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	0.42 U	100 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.35 J	1.19
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	0.57 U	140 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.285
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	0.5 U	130 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	0.84 U	210 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.84 U	0.42
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	0.62 U	150 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.31
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	0.63 U	160 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.315
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	0.65 U	160 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.325
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	0.58 U	150 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.29
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	0.75 U	190 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.375
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	0.67 U	170 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.335
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	0.54 U	140 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.27
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	0.52 U	130 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.26
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	0.35 U	90 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	0.36 U	90 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	0.35 U	87 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	0.38 U	95 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aldrin	Atrazine	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Oxychlordane	Total Chlordane (1/2 DL)
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	0.39 U	96 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	0.37 U	92 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.38 U	96 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.33 U	84 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	1.1 U	280 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.55
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.34 U	84 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	1.4 U	350 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.7
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	1.3 U	330 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	0.34 U	84 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	1.3 U	320 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	1.2 U	310 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	1.2 UJ	310 U	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	0.6
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	1.2 U	290 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	1.2 U	290 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	0.33 U	84 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	0.93 U	240 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.465
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.33 U	84 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.89 U	220 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.445
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.33 U	84 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.33 U	84 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.48 U	120 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.24
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.33 U	84 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	0.64 U	160 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.32
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	1 U	250 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.34 U	84 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.8 U	200 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.4
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	0.76 U	85 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.38
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	1.2 U	300 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.79 U	200 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.395
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	0.77 U	190 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.385
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.34 U	84 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.91 U	230 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.455
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.34 U	84 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.81 U	200 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.405
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.33 U	85 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.39 U	240 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.91 U	230 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.455
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.72 U	180 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.36

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aldrin	Atrazine	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Oxychlordane	Total Chlordane (1/2 DL)
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	0.76 U	190 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.38
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	0.81 U	200 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.405
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	0.66 U	170 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.33
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	0.89 U	230 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.445
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	0.91 U	230 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.455
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	210 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.425
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	0.87 U	220 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.435
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.37 U	94 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.92 U	230 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.46
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.79 U	200 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.395
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.35 U	89 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.55 U	140 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.275
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.33 U	83 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	0.62 U	160 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.31
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	0.33 U	84 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	0.92 U	88 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.46
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	0.37 U	91 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.36 U	90 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	1.1	0.84 J	0.43 U	0.76 U	0.43 U	2.75
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.59 U	150 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.295
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	0.63 U	160 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.315
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	0.34 U	84 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.36 U	92 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.075 J	0.36 U	0.36 U	0.36 U	0.795
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.75 U	190 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.375
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.33 U	83 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.165
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.91 U	230 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.455
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.37 U	94 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	0.37 U	94 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	0.69 U	170 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.345
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	0.36 U	91 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.39 U	99 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.83 U	210 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.415
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.37 U	92 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	0.85 U	99 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.425
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	0.37 U	94 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	0.78 U	200 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	0.83 U	210 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.415
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.94 U	240 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.47
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.89 U	230 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.445
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.83 U	210 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.415
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.54 U	140 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.27

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aldrin	Atrazine	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Oxychlordane	Total Chlordane (1/2 DL)
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.87 U	220 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.435
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.38 U	97 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	0.89 U	230 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.445
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	0.34 U	87 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.45 U	110 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.225
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	1 U	250 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	1	0.42 U	1.84
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	0.78 U	200 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	0.36 U	91 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	0.66 U	170 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.33
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	0.78 U	200 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	0.35 U	87 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.7 U	180 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.34 U	87 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	0.68 U	170 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.38 U	95 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.34 U	85 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.39 U	98 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.42 U	100 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	0.6 U	150 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.3
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.63 U	160 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.315
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.94 UJ	240 U	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.47
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.39 U	98 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	0.52 U	130 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.26
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	0.46 U	110 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.39 U	98 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	0.57 U	140 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.285
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	0.51 U	130 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.255
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	0.51 U	130 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.255
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.35 U	88 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	0.39 U	98 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	0.56 U	140 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.28
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	0.39 U	98 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	0.72 U	160 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.36
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	0.35 U	87 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	0.54 U	140 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.27

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aldrin	Atrazine	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Oxychlordane	Total Chlordane (1/2 DL)
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.38 U	96 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.39 U	98 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	0.52 U	130 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.26
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	0.51 U	130 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.255
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.17 J	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.35 U	89 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	0.35 U	89 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	0.38 U	97 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.36 U	91 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.34 U	86 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.17
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.39 U	97 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.43 UJ	110 U	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.215
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.36 U	91 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.18
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	0.35 U	87 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.175
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.37 U	93 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.185
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	0.38 U	96 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.38 U	97 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	0.45 U	110 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.225
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	0.4 U	99 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.42 U	100 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	0.45 U	110 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.225
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	0.46 U	120 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	0.45 U	110 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.225
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	0.38 U	96 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.19
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	0.73 U	180 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.365
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	0.5 U	120 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	0.5 U	120 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	0.4 U	100 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	0.66 U	170 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.33
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	0.45 U	110 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.225

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Aldrin	Atrazine	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor	Oxychlordane	Total Chlordane (1/2 DL)
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	0.67 U	170 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.335
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	0.75 U	190 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.375
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	0.59 U	150 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.295
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	0.53 U	130 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.265
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	0.44 U	110 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	0.56 U	140 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.28
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	0.48 U	120 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.24
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	0.5 U	120 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	0.49 U	120 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.245
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	0.39 U	100 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.195
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	0.45 U	110 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.225
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	0.52 U	130 U	0.18 J	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.26
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	0.42 U	110 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	0.41 U	100 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.205
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	0.5 U	130 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	0.42 U	100 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	0.47 U	120 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.42 U	100 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.21
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	0.47 U	230 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.235
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	0.46 U	110 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.23
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.43 U	110 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.215

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Dieldrin	Endosulfan I	Endosulfan II	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachloro-benzene	Hexachloro-butadiene	Methoxychlor	Toxaphene
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	1.1	0.34 U	3.4 U	34 U
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	1.6	0.36 U	3.6 U	36 U
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.41 U	0.83 U	0.83 U	0.83 U	0.83 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.63 U	1.3 U	1.3 U	1.3 U	1.3 U	0.63 U	0.63 U	0.63 U	0.63 U	6.3 U	63 U
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	5.1 U	2.6 U	5.1 U	5.1 U	5.1 U	5.1 U	2.6 U	2.6 U	2.6 U	2.6 U	25 U	250 U
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 J	34 U
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	0.85 J	35 U
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.35 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35 U	0.35 U	0.35 U	0.35 U	0.75 J	35 U
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.35 U	0.72 U	0.72 U	0.72 U	0.72 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.43 U	0.86 U	0.86 U	0.86 U	0.86 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.8 U	0.4 U	0.8 U	0.8 U	0.8 U	0.8 U	0.4 U	0.4 U	0.11 J	0.4 U	4 U	40 U
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.41 U	0.82 U	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.41 U	0.84 U	0.84 U	0.84 U	0.84 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.35 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.42 U	0.86 U	0.86 U	0.86 U	0.86 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.41 U	0.82 U	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	0.97 U	0.48 U	0.97 U	0.97 U	0.97 U	0.97 U	0.48 U	0.48 U	0.48 U	0.48 U	4.8 U	48 U
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.35 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.35 U	0.72 U	0.72 U	0.72 U	0.72 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.41 U	0.83 U	0.83 U	0.83 U	0.83 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.35 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35 U	0.35 U	0.092 J	0.35 U	3.5 U	35 U
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.44 U	0.89 U	0.89 U	0.89 U	0.89 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.56 U	1.1 U	1.1 U	1.1 U	1.1 U	0.56 U	0.56 U	0.56 U	0.56 U	5.6 U	56 U
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	50 U
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.9 U	0.44 U	0.9 U	0.9 U	0.9 U	0.9 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Dieldrin	Endosulfan I	Endosulfan II	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachloro-benzene	Hexachloro-butadiene	Methoxychlor	Toxaphene
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.36 U	0.72 U	0.72 U	0.72 U	0.72 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	50 U
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.44 U	0.89 U	0.89 U	0.89 U	0.89 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.36 U	0.72 U	0.72 U	0.72 U	0.72 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.35 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.38 U	0.78 U	0.78 U	0.78 U	0.78 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	1 U	0.49 U	1 U	1 U	1 U	1 U	0.49 U	0.49 U	0.49 U	0.49 U	4.9 U	49 U
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	1.8 U	0.87 U	1.8 U	1.8 U	1.8 U	1.8 U	0.87 U	0.87 U	0.87 U	0.87 U	8.7 U	87 U
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	0.77 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	0.78 U	0.38 U	0.78 U	0.78 U	0.78 U	0.78 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	0.77 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	0.76 U	0.37 U	0.76 U	0.76 U	0.76 U	0.76 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.93 U	1.9 U	1.9 U	0.42 J	1.9 U	0.93 U	0.93 U	0.93 U	0.93 U	9.3 U	93 U
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	1.4 U	0.7 U	1.4 U	1.4 U	1.4 U	1.4 U	0.7 U	0.7 U	0.7 U	0.7 U	7 U	70 U
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	0.84 U	0.42 U	0.84 U	0.84 U	0.84 U	0.84 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	0.82 U	0.4 U	0.82 U	0.82 U	0.82 U	0.82 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	1.2 U	0.58 U	1.2 U	1.2 U	1.2 U	1.2 U	0.58 U	0.58 U	0.58 U	0.58 U	5.8 U	58 U
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	0.94 U	0.46 U	0.94 U	0.94 U	0.94 U	0.94 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	0.83 U	0.41 U	0.83 U	0.83 U	0.83 U	0.83 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	1.2 U	0.57 U	1.2 U	1.2 U	1.2 U	1.2 U	0.57 U	0.57 U	0.57 U	0.57 U	5.7 U	57 U
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	50 U
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	0.95 U	0.47 U	0.95 U	0.95 U	0.95 U	0.95 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	0.94 U	0.46 U	0.94 U	0.94 U	0.94 U	0.94 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	1.7 U	0.84 U	1.7 U	1.7 U	1.7 U	1.7 U	0.84 U	0.84 U	0.84 U	0.84 U	8.4 U	84 U
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	1.2 U	0.62 U	1.2 U	1.2 U	1.2 U	1.2 U	0.62 U	0.62 U	0.62 U	0.62 U	6.2 U	62 U
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	1.3 U	0.63 U	1.3 U	1.3 U	1.3 U	1.3 U	0.63 U	0.63 U	0.63 U	0.63 U	6.3 U	63 U
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	1.3 U	0.65 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65 U	0.65 U	0.65 U	0.65 U	6.6 U	65 U
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	1.2 U	0.58 U	1.2 U	1.2 U	1.2 U	1.2 U	0.58 U	0.58 U	0.58 U	0.58 U	5.8 U	58 U
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.75 U	1.6 U	1.6 U	1.6 U	1.6 U	0.75 U	0.75 U	0.75 U	0.75 U	7.5 U	75 U
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	1.4 U	0.67 U	1.4 U	1.4 U	1.4 U	1.4 U	0.67 U	0.67 U	0.67 U	0.67 U	6.7 U	67 U
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	1.1 U	0.54 U	1.1 U	1.1 U	1.1 U	1.1 U	0.54 U	0.54 U	0.54 U	0.54 U	5.4 U	54 U
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	0.84 U	0.41 U	0.84 U	0.84 U	0.84 U	0.84 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	1.1 U	0.52 U	1.1 U	1.1 U	1.1 U	1.1 U	0.52 U	0.52 U	0.52 U	0.52 U	5.2 U	52 U
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	0.72 U	0.35 U	0.72 U	0.72 U	0.72 U	0.72 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	0.7 U	0.35 U	0.7 U	0.7 U	0.7 U	0.7 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Dieldrin	Endosulfan I	Endosulfan II	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachloro-benzene	Hexachloro-butadiene	Methoxychlor	Toxaphene
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	0.78 U	0.39 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	0.82 U	0.41 U	0.82 U	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.4 U	0.82 U	0.82 U	0.82 U	0.82 U	0.4 U	0.4 U	8.5	0.4 U	4 U	40 U
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.33 U	0.68 U	0.68 U	0.68 U	0.68 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	2.2 U	1.1 U	2.2 U	2.2 U	2.2 U	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	11 U	110 U
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	2.8 U	1.4 U	2.8 U	2.8 U	2.8 U	2.8 U	1.4 U	1.4 U	1.4 U	1.4 U	14 U	140 U
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	2.7 U	1.3 U	2.7 U	2.7 U	2.7 U	2.7 U	1.3 U	1.3 U	1.3 U	1.3 U	13 U	130 U
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	2.6 U	1.3 U	2.6 U	2.6 U	2.6 U	2.6 U	1.3 U	1.3 U	1.3 U	1.3 U	13 U	130 U
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	2.5 U	1.2 U	2.5 U	2.5 U	2.5 U	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U	12 U	120 U
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	2.5 UJ	1.2 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 U	12 UJ	120 UJ
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	2.4 U	1.2 U	2.4 U	2.4 U	2.4 U	2.4 U	1.2 U	1.2 U	1.2 U	1.2 U	12 U	120 U
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	2.4 U	1.2 U	2.4 U	2.4 U	2.4 U	2.4 U	1.2 U	1.2 U	1.2 U	1.2 U	12 U	120 U
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.41 U	0.83 U	0.83 U	0.83 U	0.83 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.33 U	0.68 U	0.68 U	0.68 U	0.68 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.93 U	1.9 U	1.9 U	1.9 U	1.9 U	0.93 U	0.93 U	0.93 U	0.93 U	9.3 U	93 U
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.33 U	0.67 U	0.67 U	0.67 U	0.67 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	1.8 U	0.89 U	1.8 U	1.8 U	1.8 U	1.8 U	0.89 U	0.89 U	0.89 U	0.89 U	8.9 U	89 U
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.33 U	0.67 U	0.67 U	0.67 U	0.67 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.33 U	0.67 U	0.67 U	0.67 U	0.67 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.97 U	0.48 U	0.97 U	0.97 U	0.97 U	0.97 U	0.48 U	0.48 U	0.48 U	0.48 U	4.8 U	48 U
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.33 U	0.67 U	0.67 U	0.67 U	0.67 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	0.76 U	0.37 U	0.76 U	0.76 U	0.76 U	0.76 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.64 U	1.3 U	1.3 U	1.3 U	1.3 U	0.64 U	0.64 U	0.64 U	0.64 U	6.4 U	64 U
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.46 U	0.94 U	0.94 U	0.94 U	0.94 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	2 U	1 U	2 U	2 U	2 U	2 U	1 U	1 U	1 U	1 U	10 U	100 U
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.8 U	1.6 U	1.6 U	1.6 U	1.6 U	0.8 U	0.8 U	0.8 U	0.8 U	8 U	80 U
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.76 U	1.6 U	1.6 U	1.6 U	1.6 U	0.76 U	0.76 U	0.76 U	0.76 U	7.6 U	76 U
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	2.4 U	1.2 U	2.4 U	2.4 U	2.4 U	2.4 U	1.2 U	1.2 U	1.2 U	1.2 U	12 U	120 U
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.42 U	0.86 U	0.86 U	0.86 U	0.86 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.79 U	1.6 U	1.6 U	1.6 U	1.6 U	0.76 U	0.76 U	0.76 U	0.76 U	7.9 U	79 U
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.77 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77 U	0.77 U	0.77 U	0.77 U	7.7 U	77 U
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.91 U	1.9 U	1.9 U	1.9 U	1.9 U	0.91 U	0.91 U	0.91 U	0.91 U	9.1 U	91 U
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.81 U	1.6 U	1.6 U	1.6 U	1.6 U	0.81 U	0.81 U	0.81 U	0.81 U	8.1 U	81 U
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.33 U	0.68 U	0.68 U	0.68 U	0.68 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.91 U	1.9 U	1.9 U	1.9 U	1.9 U	0.91 U	0.91 U	0.91 U	0.91 U	9.1 U	91 U
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	1.5 U	0.72 U	1.5 U	1.5 U	1.5 U	1.5 U	0.72 U	0.72 U	0.72 U	0.72 U	7.2 U	72 U

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Dieldrin	Endosulfan I	Endosulfan II	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachloro-benzene	Hexachloro-butadiene	Methoxychlor	Toxaphene
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.42 U	0.86 U	0.86 U	0.86 U	0.86 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.43 U	0.86 U	0.86 U	0.86 U	0.86 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.76 U	1.6 U	1.6 U	1.6 U	1.6 U	0.76 U	0.76 U	0.76 U	0.76 U	7.6 U	76 U
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.81 U	1.6 U	1.6 U	0.81 U	1.6 U	0.81 U	0.81 U	0.81 U	0.81 U	8.1 U	81 U
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.66 U	1.3 U	1.3 U	1.3 U	1.3 U	0.66 U	0.66 U	0.096 J	0.66 U	6.6 U	66 U
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.8 U	0.89 U	1.8 U	1.8 U	1.8 U	1.8 U	0.89 U	0.89 U	0.89 U	0.89 U	8.9 U	89 U
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.91 U	1.9 U	1.9 U	1.9 U	1.9 U	0.91 U	0.91 U	0.91 U	0.91 U	9.1 U	91 U
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	1.7 U	0.85 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85 U	0.85 U	0.85 U	0.85 U	8.5 U	85 U
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	1.8 U	0.87 U	1.8 U	1.8 U	1.8 U	1.8 U	0.87 U	0.87 U	0.87 U	0.87 U	8.7 U	87 U
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.76 U	0.37 U	0.76 U	0.76 U	0.76 U	0.76 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.92 U	1.9 U	1.9 U	1.9 U	1.9 U	0.92 U	0.92 U	0.92 U	0.92 U	9.2 U	92 U
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.34 U	0.68 U	0.68 U	0.68 U	0.68 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.79 U	1.6 U	1.6 U	1.6 U	1.6 U	0.79 U	0.79 U	0.79 U	0.79 U	7.9 U	79 U
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.55 U	1.1 U	1.1 U	1.1 U	1.1 U	0.55 U	0.55 U	0.55 U	0.55 U	5.6 U	55 U
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	0.67 U	0.33 U	0.67 U	0.67 U	0.67 U	0.67 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.62 U	1.3 U	1.3 U	1.3 U	1.3 U	0.62 U	0.62 U	0.62 U	0.62 U	6.2 U	62 U
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.33 U	0.68 U	0.68 U	0.68 U	0.68 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.92 U	1.9 U	1.9 U	1.9 U	1.9 U	0.92 U	0.92 U	0.92 U	0.92 U	9.2 U	92 U
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.46 U	0.94 U	0.94 U	0.94 U	0.94 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.5 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	1.2 U	0.59 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59 U	0.59 U	0.59 U	0.59 U	5.9 U	59 U
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.63 U	1.3 U	1.3 U	1.3 U	1.3 U	0.63 U	0.63 U	0.63 U	0.63 U	6.3 U	63 U
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.75 U	1.6 U	1.6 U	1.6 U	1.6 U	0.75 U	0.75 U	0.75 U	0.75 U	7.5 U	75 U
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	0.68 U	0.33 U	0.68 U	0.68 U	0.68 U	0.68 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U	33 U
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.91 U	1.9 U	1.9 U	1.9 U	1.9 U	0.91 U	0.91 U	0.91 U	0.91 U	9.1 U	91 U
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	1.4 U	0.69 U	1.4 U	1.4 U	1.4 U	1.4 U	0.69 U	0.69 U	0.69 U	0.69 U	6.9 U	69 U
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.36 U	0.74 U	0.74 U	0.74 U	0.74 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	1.7 U	0.83 U	1.7 U	1.7 U	1.7 U	1.7 U	0.83 U	0.83 U	0.83 U	0.83 U	8.3 U	83 U
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	1.7 U	0.85 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85 U	0.85 U	0.85 U	0.85 U	8.6 U	85 U
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	0.76 U	0.37 U	0.76 U	0.76 U	0.76 U	0.76 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.78 U	1.6 U	1.6 U	1.6 U	1.6 U	0.78 U	0.78 U	0.78 U	0.78 U	7.8 U	78 U
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	1.7 U	0.83 U	1.7 U	1.7 U	1.7 U	1.7 U	0.83 U	0.83 U	0.83 U	0.83 U	8.3 U	83 U
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.9 U	0.94 U	1.9 U	1.9 U	1.9 U	1.9 U	0.94 U	0.94 U	0.94 U	0.94 U	9.4 U	94 U
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.8 U	0.89 U	1.8 U	1.8 U	1.8 U	1.8 U	0.89 U	0.89 U	0.89 U	0.89 U	8.9 U	89 U
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.7 U	0.83 U	1.7 U	1.7 U	1.7 U	1.7 U	0.83 U	0.83 U	0.83 U	0.83 U	8.3 U	83 U
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.54 U	1.1 U	1.1 U	1.1 U	1.1 U	0.54 U	0.54 U	0.54 U	0.54 U	5.4 U	54 U

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Dieldrin	Endosulfan I	Endosulfan II	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachloro-benzene	Hexachloro-butadiene	Methoxychlor	Toxaphene
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	1.8 U	0.87 U	1.8 U	1.8 U	1.8 U	1.8 U	0.87 U	0.87 U	0.87 U	0.87 U	8.7 U	87 U
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.38 U	0.78 U	0.78 U	0.78 U	0.78 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	1.8 U	0.89 U	1.8 U	1.8 U	1.8 U	1.8 U	0.89 U	0.89 U	0.89 U	0.89 U	8.9 U	89 U
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.92 U	0.45 U	0.92 U	0.92 U	0.92 U	0.92 U	0.45 U	0.45 U	0.45 U	0.45 U	4.6 U	45 U
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	2 U	1 U	2 U	2 U	2 U	2 U	1 U	1 U	1 U	1 U	10 U	100 U
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.42 U	0.86 U	0.86 U	0.86 U	0.86 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.78 U	1.6 U	1.6 U	1.6 U	1.6 U	0.78 U	0.78 U	0.78 U	0.78 U	7.8 U	78 U
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.66 U	1.3 U	1.3 U	1.3 U	1.3 U	0.66 U	0.66 U	0.66 U	0.66 U	6.6 U	66 U
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.78 U	1.6 U	1.6 U	1.6 U	1.6 U	0.78 U	0.78 U	0.78 U	0.78 U	7.8 U	78 U
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.41 U	0.84 U	0.84 U	0.84 U	0.84 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	1.4 U	0.7 U	1.4 U	1.4 U	1.4 U	1.4 U	0.7 U	0.7 U	0.7 U	0.7 U	7 U	70 U
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	1.4 U	0.68 U	1.4 U	1.4 U	1.4 U	1.4 U	0.68 U	0.68 U	0.68 U	0.68 U	6.8 U	68 U
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.9 U	0.44 U	0.9 U	0.9 U	0.9 U	0.9 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	0.69 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.43 U	0.86 U	0.86 U	0.86 U	0.86 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.42 U	0.84 U	0.84 U	0.84 U	0.84 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	1.2 U	0.6 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6 U	0.6 U	0.6 U	0.6 U	6 U	60 U
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.47 U	0.96 U	0.96 U	0.96 U	0.96 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.42 U	0.86 U	0.86 U	0.86 U	0.86 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.63 U	1.3 U	1.3 U	1.3 U	1.3 U	0.63 U	0.63 U	0.63 U	0.63 U	6.3 U	63 U
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	1.9 UJ	0.94 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	9.4 UJ	94 UJ
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.8 U	0.39 U	0.8 U	0.8 U	0.8 U	0.8 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.47 U	0.95 U	0.95 U	0.95 U	0.95 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.52 U	1.1 U	1.1 U	1.1 U	1.1 U	0.52 U	0.52 U	0.52 U	0.52 U	5.2 U	52 U
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.46 U	0.94 U	0.94 U	0.94 U	0.94 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.46 U	0.94 U	0.94 U	0.94 U	0.94 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	1.2 U	0.57 U	1.2 U	1.2 U	1.2 U	1.2 U	0.57 U	0.57 U	0.57 U	0.57 U	5.7 U	57 U
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	1 U	0.51 U	1 U	1 U	1 U	1 U	0.51 U	0.51 U	0.51 U	0.51 U	5.1 U	51 U
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	0.75 U	0.37 U	0.75 U	0.75 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.41 U	0.84 U	0.84 U	0.84 U	0.84 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	1 U	0.51 U	1 U	1 U	1 U	1 U	0.51 U	0.51 U	0.51 U	0.51 U	5.1 U	51 U
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.47 U	0.96 U	0.96 U	0.96 U	0.96 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.56 U	1.1 U	1.1 U	1.1 U	1.1 U	0.56 U	0.56 U	0.56 U	0.56 U	5.6 U	56 U
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	1.5 U	0.72 U	1.5 U	1.5 U	1.5 U	1.5 U	0.72 U	0.72 U	0.72 U	0.72 U	7.2 U	72 U
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.54 U	1.1 U	1.1 U	1.1 U	1.1 U	0.54 U	0.54 U	0.54 U	0.54 U	5.4 U	54 U

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Dieldrin	Endosulfan I	Endosulfan II	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachloro-benzene	Hexachloro-butadiene	Methoxychlor	Toxaphene
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	0.79 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.52 U	1.1 U	1.1 U	1.1 U	1.1 U	0.52 U	0.52 U	0.52 U	0.52 U	5.2 U	52 U
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.47 U	0.96 U	0.96 U	0.96 U	0.96 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	1 U	0.51 U	1 U	1 U	1 U	1 U	0.51 U	0.51 U	0.51 U	0.51 U	5.1 U	51 U
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.44 U	0.89 U	0.89 U	0.89 U	0.89 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	0.72 U	0.35 U	0.72 U	0.72 U	0.72 U	0.72 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.6 U	35 U
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.38 U	0.78 U	0.78 U	0.78 U	0.78 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.7 U	0.34 U	0.7 U	0.7 U	0.7 U	0.7 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	34 U
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.39 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.88 UJ	0.43 UJ	0.88 UJ	0.88 UJ	0.88 UJ	0.88 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 U	4.3 UJ	43 UJ
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	0.73 U	0.36 U	0.73 U	0.73 U	0.73 U	0.73 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	36 U
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	0.71 U	0.35 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.35 U	0.35 U	0.35 U	3.5 U	35 U
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	3.7 U	37 U
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.4 U	0.82 U	0.82 U	0.82 U	0.82 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.38 U	0.78 U	0.78 U	0.78 U	0.78 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.84 U	0.41 U	0.84 U	0.84 U	0.84 U	0.84 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	0.78 U	0.38 U	0.78 U	0.78 U	0.78 U	0.78 U	0.38 U	0.38 U	0.38 U	0.38 U	0.75 J	38 U
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.47 U	0.95 U	0.95 U	0.95 U	0.95 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	0.91 U	0.45 U	0.91 U	0.91 U	0.91 U	0.91 U	0.45 U	0.45 U	0.45 U	0.45 U	4.5 U	45 U
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4.0 U	40 U
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.41 U	0.83 U	0.83 U	0.83 U	0.83 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	0.91 U	0.45 U	0.91 U	0.91 U	0.91 U	0.91 U	0.45 U	0.45 U	0.45 U	0.45 U	4.5 U	45 U
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	0.92 U	0.45 U	0.92 U	0.92 U	0.92 U	0.92 U	0.45 U	0.45 U	0.45 U	0.45 U	4.6 U	45 U
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	0.77 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.38 U	0.38 U	0.38 U	0.38 U	3.8 U	38 U
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.42 U	0.86 U	0.86 U	0.86 U	0.86 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	1.5 U	0.73 U	1.5 U	1.5 U	1.5 U	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	7.3 U	73 U
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	50 U
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.41 U	0.82 U	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	2.4 J	41 U
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	0.9 U	0.44 U	0.9 U	0.9 U	0.9 U	0.9 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.43 U	0.86 U	0.86 U	0.86 U	0.86 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	50 U
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	0.83 U	0.41 U	0.83 U	0.83 U	0.83 U	0.83 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.44 U	0.89 U	0.89 U	0.89 U	0.89 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.47 U	0.95 U	0.95 U	0.95 U	0.95 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	0.81 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	40 U
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	1.3 U	0.66 U	1.3 U	1.3 U	1.3 U	1.3 U	0.66 U	0.66 U	0.66 U	0.66 U	6.6 U	66 U
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	0.92 U	0.45 U	0.92 U	0.92 U	0.92 U	0.92 U	0.45 U	0.45 U	0.45 U	0.45 U	4.6 U	45 U

Table B-8. Concentrations of Pesticides in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Dieldrin	Endosulfan I	Endosulfan II	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachloro-benzene	Hexachloro-butadiene	Methoxychlor	Toxaphene
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	1.4 U	0.67 U	1.4 U	1.4 U	1.4 U	1.4 U	0.67 U	0.67 U	0.67 U	0.67 U	6.7 U	67 U
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	1.6 U	0.75 U	1.6 U	1.6 U	1.6 U	1.6 U	0.75 U	0.75 U	0.75 U	0.75 U	7.5 U	75 U
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	1.2 U	0.59 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59 U	0.59 U	0.59 U	0.59 U	5.9 U	59 U
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.53 U	1.1 U	1.1 U	1.1 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	5.3 U	53 U
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	0.89 U	0.44 U	0.89 U	0.89 U	0.89 U	0.89 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	44 U
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.56 U	1.1 U	1.1 U	1.1 U	1.1 U	0.56 U	0.56 U	0.56 U	0.56 U	5.6 U	56 U
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	0.97 U	0.48 U	0.97 U	0.97 U	0.97 U	0.97 U	0.48 U	0.48 U	0.3 J	0.48 U	4.8 U	48 U
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	50 U
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	1 U	0.49 U	1 U	1 U	1 U	1 U	0.49 U	0.49 U	0.49 U	0.49 U	4.9 U	49 U
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	0.8 U	0.39 U	0.8 U	0.8 U	0.8 U	0.8 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U	39 U
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	0.91 U	0.45 U	0.91 U	0.91 U	0.91 U	0.91 U	0.45 U	0.45 U	0.45 U	0.45 U	4.6 U	45 U
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	1.1 U	0.52 U	1.1 U	1.1 U	1.1 U	1.1 U	0.52 U	0.52 U	0.52 U	0.52 U	5.2 U	52 U
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.42 U	0.86 U	0.86 U	0.86 U	0.86 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	0.82 U	0.41 U	0.82 U	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U	41 U
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	50 U
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	0.96 U	0.47 U	0.96 U	0.96 U	0.96 U	0.96 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.85 U	0.42 U	0.85 U	0.85 U	0.85 U	0.85 U	0.42 U	0.42 U	0.42 U	0.42 U	4.2 U	42 U
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	0.87 U	0.43 U	0.87 U	0.87 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	0.95 U	0.47 U	0.95 U	0.95 U	0.95 U	0.95 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U	47 U
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	0.94 U	0.46 U	0.94 U	0.94 U	0.94 U	0.94 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	46 U
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.86 U	0.43 U	0.86 U	0.86 U	0.86 U	0.86 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	0.88 U	0.43 U	0.88 U	0.88 U	0.88 U	0.88 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U	43 U

Notes:

* Only primary samples are presented in this table - field duplicates were not included.
J The analyte was positively identified. The associated numerical result is an estimate.
U The compound was analyzed for, but was not detected.
UJ The analyte was not detected, value is estimated.
UR Non-detected value, data unusable. Rejected by CH2M HILL project validator. Samples with this code were not included in the SLERA.

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,1'-Biphenyl	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2,2'-oxybis-(1-Chloropropane)	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UJ	86 U
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U	91 U	230 UJ	91 U
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	92 U	92 U	92 U	92 U	92 U	92 U	230 U	92 U	92 U	92 U	230 UJ	92 U
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 UJ	93 U
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 U	93 U
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U	160 U	400 U	160 U
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U	130 U	320 U	130 U
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 U	85 U
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U	90 U	230 U	90 U
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U	120 U	290 U	120 U
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 U	85 U
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	99 U	99 U	99 U	99 U	99 U	99 U	250 U	99 U	99 U	99 U	250 U	99 U
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U	120 U	290 U	120 U
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 U	87 U
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 UR	85 U
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UR	86 U
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UR	85 U
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UR	88 U
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UR	88 U
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U	91 U	230 UR	91 U
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UR	85 U
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UR	85 U
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UR	86 U
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UJ	86 U
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UJ	88 U
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UJ	88 U
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U	98 U	250 U	98 U
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UR	100 U
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	230 U	93 U	93 U	93 U	230 U	93 U
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 U	120 U
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 U	87 U
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U	140 U	360 U	140 U
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U	120 U	290 U	120 U
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 U	120 U
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	89 U	89 U	230 U	89 U	89 U	89 U	230 U	89 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,1'-Biphenyl	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2,2'-oxybis-(1-Chloropropane)	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U	130 U	320 U	130 U
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 U	93 U
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U	90 U	230 U	90 U
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 U	85 U
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 U	85 U
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U	95 U	240 U	95 U
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U	120 U	310 UR	120 U
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UJ	110 U
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UJ	110 U
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	220 U	220 U	220 U	220 U	220 U	220 U	550 U	220 U	220 U	220 U	550 U	220 U
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	290 U	110 U
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	97 U	97 U	250 U	97 U	97 U	97 U	250 UJ	97 U
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U	95 U	240 U	95 U
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U	96 U	240 U	96 U
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U	95 U	240 U	95 U
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	230 U	93 U	93 U	93 U	230 U	93 U
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 U	93 U
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U	230 U	580 UJ	230 U
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	180 U	180 U	180 U	180 U	180 U	180 U	450 U	180 U	180 U	180 U	450 UJ	180 U
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U	150 U	370 UJ	150 U
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UJ	120 U
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	270 U	100 U	100 U	100 U	270 UJ	100 U
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U	140 U	360 U	140 U
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U	130 U	320 U	130 U
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 U	120 U
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 U	120 U
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	210 U	210 U	540 U	210 U	210 U	210 U	540 U	210 U
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	150 U	150 U	150 U	150 U	150 U	150 U	390 U	150 U	150 U	150 U	390 U	150 U
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U	160 U	400 U	160 U
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	410 U	160 U	160 U	160 U	410 U	160 U
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U	150 U	370 U	150 U
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	190 U	190 U	470 U	190 U	190 UJ	190 U	470 U	190 U
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	170 U	170 U	170 U	170 U	170 U	170 U	430 U	170 U	170 U	170 U	430 UJ	170 U
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	340 U	140 U	140 U	140 U	340 UJ	140 U
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U	130 U	330 UJ	130 U
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UJ	86 U
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UJ	86 U
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U	90 U	230 UJ	90 U
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U	90 U	230 UJ	90 U
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 UJ	87 U
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 UJ	93 U
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U	95 U	240 U	95 U
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U	96 U	240 U	96 U
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	92 U	92 U	92 U	92 U	92 U	92 U	230 U	92 U	92 U	92 U	230 U	92 U
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,1'-Biphenyl	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2,2'-oxybis-(1-Chloropropane)	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U	96 U	240 U	96 U
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	280 U	280 U	280 U	280 U	700 U	280 U	280 U	280 U	700 UJ	280 U
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	350 U	350 U	350 U	350 U	350 U	350 U	880 U	350 U	350 U	350 U	880 UJ	350 U
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UJ	86 U
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 UJ	85 U
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	840 U	330 U	330 U	330 U	840 UJ	330 U
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	320 U	320 U	320 U	320 U	320 U	320 U	810 U	320 U	320 U	320 U	810 UJ	320 U
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	310 U	310 U	310 U	310 U	780 U	310 U	310 U	310 U	780 UJ	310 U
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	310 U	310 U	310 U	310 U	780 U	310 U	310 U	310 U	780 UJ	310 U
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	290 U	290 U	290 U	290 U	750 U	290 U	290 U	290 U	750 UJ	290 U
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	290 U	290 U	290 U	290 U	750 U	290 U	290 U	290 U	750 UJ	290 U
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UJ	85 U
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	240 U	240 U	240 U	240 U	600 U	240 U	240 U	240 U	600 UJ	240 U
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	220 U	220 U	220 U	220 U	570 U	220 U	220 U	220 U	570 UJ	220 U
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UJ	120 U
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 UJ	93 U
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U	160 U	400 U	160 U
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UJ	120 U
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	250 U	250 U	250 U	250 U	640 U	250 U	250 U	250 U	640 UJ	250 U
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	510 U	200 U	200 U	200 U	510 UJ	200 U
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UJ	88 U
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UJ	85 U
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	300 U	300 U	300 U	300 U	750 U	300 U	300 U	300 U	750 UJ	300 U
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U	200 U	500 UJ	200 U
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UJ	85 U
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	190 U	190 U	490 U	190 U	190 U	190 U	490 U	190 U
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U	230 U	580 UJ	230 U
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	510 U	200 U	200 U	200 U	510 UJ	200 U
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 UJ	85 U
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	240 U	240 U	240 U	240 U	620 U	240 U	240 U	240 U	620 UJ	240 U
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U	230 U	580 UJ	230 U
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	180 U	180 U	180 U	180 U	180 U	180 U	460 U	180 U	180 U	180 U	460 UJ	180 U
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 UJ	85 U
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 UJ	85 U
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	190 U	190 U	490 U	190 U	190 U	190 U	490 UJ	190 U
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	510 U	200 U	200 U	200 U	510 UJ	200 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,1'-Biphenyl	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2,2'-oxybis-(1-Chloropropane)	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U	85 U	210 UJ	85 U
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	170 U	170 U	420 U	170 U	170 U	170 U	420 UJ	170 U
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	570 U	230 U	230 U	230 U	570 UJ	230 U
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U	230 U	580 UJ	230 U
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	210 U	210 U	540 U	210 U	210 U	210 U	540 UJ	210 U
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	220 U	220 U	220 U	220 U	550 U	220 U	220 U	220 U	550 UJ	220 U
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UJ	86 U
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U	94 U	240 UJ	94 U
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U	230 U	580 UJ	230 U
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UJ	85 U
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 UJ	85 U
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U	200 U	500 UJ	200 U
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	89 U	89 U	220 U	89 U	89 U	89 U	220 UJ	89 U
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	350 U	140 U	140 U	140 U	350 UJ	140 U
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	83 U	83 U	83 U	83 U	83 U	83 U	210 U	83 U	83 U	83 U	210 UJ	83 U
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U	160 U	400 U	160 U
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UJ	84 U
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 U	85 U
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UR	88 U
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U	91 U	230 UR	91 U
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U	90 U	230 UR	90 U
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UR	120 U
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UR	88 U
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UR	110 U
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U	150 U	370 UR	150 U
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U	160 U	400 UR	160 U
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U	84 U	210 UR	84 U
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	92 U	92 U	92 U	92 U	92 U	92 U	230 U	92 U	92 U	92 U	230 UR	92 U
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	190 U	190 U	480 U	190 U	190 U	190 U	480 UR	190 U
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	83 U	83 U	83 U	83 U	83 U	83 U	210 U	83 U	83 U	83 U	210 UR	83 U
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	590 U	230 U	230 U	230 U	590 U	230 U
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U	94 U	240 U	94 U
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U	94 U	240 UJ	94 U
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	170 U	170 U	440 U	170 U	170 U	170 U	440 UJ	170 U
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U	91 U	230 U	91 U
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	99 U	99 U	99 U	99 U	99 U	99 U	250 U	99 U	99 U	99 U	250 UJ	99 U
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	210 U	210 U	520 U	210 U	210 U	210 U	520 UJ	210 U
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	92 U	92 U	92 U	92 U	92 U	92 U	230 U	92 U	92 U	92 U	230 UJ	92 U
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 UJ	86 U
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	99 U	99 U	99 U	99 U	99 U	99 U	250 U	99 U	99 U	99 U	250 UJ	99 U
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U	94 U	240 UJ	94 U
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U	200 U	500 UJ	200 U
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	210 U	210 U	520 U	210 U	210 U	210 U	520 U	210 U
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	240 U	240 U	240 U	240 U	600 U	240 U	240 U	240 U	600 UJ	240 U
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	570 U	230 U	230 U	230 U	570 UJ	230 U
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	210 U	210 U	530 U	210 U	210 U	210 U	530 U	210 U
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	350 U	140 U	140 U	140 U	350 U	140 U
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 U	93 U
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	220 U	220 U	220 U	220 U	550 U	220 U	220 U	220 U	550 U	220 U
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	97 U	97 U	240 U	97 U	97 U	97 U	240 U	97 U
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	570 U	230 U	230 U	230 U	570 U	230 U
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 U	87 U
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	290 U	110 U
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	250 U	250 U	250 U	250 U	640 U	250 U	250 U	250 U	640 U	250 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,1'-Biphenyl	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2,2'-oxybis-(1-Chloropropane)	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 U	88 U
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U	200 U	500 U	200 U
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U	91 U	230 U	91 U
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	170 U	170 U	420 U	170 U	170 U	170 U	420 U	170 U
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U	200 U	500 U	200 U
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 U	87 U
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	180 U	180 U	180 U	180 U	180 U	180 U	450 U	180 U	180 U	180 U	450 U	180 U
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 U	87 U
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	170 U	170 U	440 U	170 U	170 U	170 U	440 U	170 U
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U	95 U	240 U	95 U
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U	85 U	220 U	85 U
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U	98 U	250 U	98 U
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U	120 U	290 U	120 U
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	150 U	150 U	380 U	150 U	150 U	150 U	380 UR	150 U
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 U	120 U
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	410 U	160 U	160 U	160 U	410 U	160 U
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	240 U	240 U	240 U	240 U	610 U	240 U	240 U	240 U	610 U	240 U
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U	98 U	250 UR	98 U
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U	120 U	290 UR	120 U
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UR	120 U
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U	130 U	330 UR	130 U
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UR	120 U
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UR	120 U
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	290 UR	110 U
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U	98 U	250 U	98 U
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U	140 U	360 U	140 U
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	130 U	330 U	130 U	83 U	130 U	330 U	330 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 UJ	93 U
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U	130 U	330 UJ	130 U
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UJ	120 U
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U	88 U	220 UJ	88 U
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U	98 U	250 UJ	98 U
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UJ	110 U
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U	140 U	360 U	140 U
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U	98 U	250 U	98 U
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	160 U	160 U	410 U	160 U	160 U	160 U	410 U	160 U
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 U	87 U
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	340 U	140 U	140 U	140 U	340 U	140 U
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U	96 U	240 U	96 U
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U	98 U	250 U	98 U
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U	130 U	330 U	130 U
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U	100 U	250 U	100 U
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 U	120 U
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U	130 U	330 U	130 U
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UR	100 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,1'-Biphenyl	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2,2'-oxybis-(1-Chloropropane)	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	89 U	89 U	230 U	89 U	89 U	89 U	230 UR	89 U
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	89 U	89 U	230 U	89 U	89 U	89 U	230 UR	89 U
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	97 U	97 U	250 U	97 U	97 U	97 U	250 UR	97 U
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UR	100 U
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U	91 U	230 UR	91 U
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U	86 U	220 U	86 U
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	97 U	97 U	240 U	97 U	97 U	97 U	240 UR	97 U
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U	91 U	230 UR	91 U
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U	87 U	220 U	87 U
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U	93 U	240 UJ	93 U
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U	96 U	240 U	96 U
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	97 U	97 U	240 U	97 U	97 U	97 U	240 U	97 U
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 U	120 U
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 U	110 U
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U	100 U	250 U	100 U
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	270 U	100 U	100 U	100 U	270 UJ	100 U
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UJ	110 U
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UJ	110 U
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U	120 U	290 UJ	120 U
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	290 UJ	110 U
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U	96 U	240 UJ	96 U
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	180 U	180 U	180 U	180 U	180 U	180 U	460 U	180 U	180 U	180 U	460 UJ	180 U
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U	120 U	310 UJ	120 U
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UJ	100 U
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UJ	110 U
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 U	110 U
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UR	110 U
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U	120 U	310 UR	120 U
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UR	100 U
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UR	110 U
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U	100 U	250 UR	100 U
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U	120 U	290 UR	120 U
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U	100 U	250 UR	100 U
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	170 U	170 U	420 U	170 U	170 U	170 U	420 UR	170 U
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	290 UR	110 U
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	170 U	170 U	430 U	170 U	170 U	170 U	430 UR	170 U
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	190 U	190 U	480 U	190 U	190 U	190 U	480 UR	190 U
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U	150 U	370 UR	150 U
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	340 U	130 U	130 U	130 U	340 UJ	130 U
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	140 U	140 U	350 U	140 U	140 U	140 U	350 U	140 U
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UJ	120 U
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U	120 U	310 U	120 U
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U	120 U	310 UJ	120 U
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U	100 U	250 UJ	100 U
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	290 UJ	110 U
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U	130 U	330 U	130 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	1,1'-Biphenyl	1,2,4-Trichloro-benzene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	2,2'-oxybis-(1-Chloropropane)	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol	2,4-Dinitro-toluene
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 U	100 U
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U	130 U	320 U	130 U
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UR	100 U
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U	120 U	300 UR	120 U
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U	100 U	260 UR	100 U
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UJ	110 U
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	230 U	230 U	590 U	230 U	230 U	230 U	590 UR	230 U
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	290 UR	110 U
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U	110 U	270 UR	110 U
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U	110 U	280 UR	110 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol	3,3'-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether	4-Methyl-phenol
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	230 U	91 U	91 U	230 U	230 U	91 U	91 U	91 U	91 U	91 U
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	92 U	92 U	92 U	92 U	230 U	92 U	92 U	230 U	230 U	92 U	92 U	92 U	92 U	92 U
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	400 U	160 U	160 U	400 U	400 U	160 U	160 U	160 U	160 U	160 U
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	320 U	130 U	130 U	320 U	320 U	130 U	130 U	130 U	130 U	130 U
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	90 U	90 U	90 U	90 U	230 U	90 U	90 U	230 U	230 U	90 U	90 U	90 U	90 U	90 U
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	290 U	120 U	120 U	290 U	290 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	99 U	99 U	99 U	99 U	250 U	99 U	99 U	250 U	250 U	99 U	99 U	99 U	99 U	99 U
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	290 U	120 U	120 U	290 U	290 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 UJ	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 UJ	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 UJ	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 UJ	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 UJ	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	230 U	91 U	91 U	230 U	230 UJ	91 U	91 U	91 U	91 U	91 U
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	86 UJ	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 UJ	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	88 UJ	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 UJ	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	88 UJ	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 UJ	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	250 U	98 U	98 U	250 U	250 U	98 U	98 U	98 U	98 U	98 U
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	230 U	93 U	93 U	230 U	230 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	360 U	140 U	140 U	360 U	360 U	140 U	140 U	140 U	140 U	140 U
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	290 U	120 U	120 U	290 U	290 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	230 U	89 U	89 U	230 U	230 U	89 U	89 U	89 U	89 U	89 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol	3,3'-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether	4-Methyl-phenol
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	320 U	130 U	130 U	320 U	320 U	130 U	130 U	130 U	130 U	130 U
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	90 U	90 U	90 U	90 U	230 U	90 U	90 U	230 U	230 U	90 U	90 U	90 U	90 U	90 U
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	95 U	95 U	95 U	95 U	240 U	95 U	95 U	240 U	240 U	95 U	95 U	95 U	95 U	95 U
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	310 U	120 U	120 U	310 U	310 UJ	120 U	120 U	120 U	120 U	120 U
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	220 U	220 U	220 U	220 U	550 U	220 U	220 U	550 U	550 U	220 U	220 U	220 U	220 U	220 U
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	110 U	110 U	110 U	110 U	290 U	110 U	110 U	290 U	290 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	250 U	97 U	97 U	250 U	250 U	97 U	97 U	97 U	97 U	97 U
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	95 U	95 U	95 U	95 U	240 U	95 U	95 U	240 U	240 U	95 U	95 U	95 U	95 U	95 U
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	96 U	96 U	96 U	96 U	240 U	96 U	96 U	240 U	240 U	96 U	96 U	96 U	96 U	96 U
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	95 U	95 U	95 U	95 U	240 U	95 U	95 U	240 U	240 U	95 U	95 U	95 U	95 U	95 U
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	93 U	93 U	93 U	93 U	230 U	93 U	93 U	230 U	230 U	93 U	93 U	93 U	93 U	93 U
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	93 U	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 U	93 U	93 U	93 U	93 U	93 U
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	580 U	230 U	230 U	580 U	580 U	230 U	230 U	230 U	230 U	230 U
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	180 U	180 U	180 U	180 U	450 U	180 U	180 U	450 U	450 U	180 U	180 U	180 U	180 U	180 U
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	370 U	150 U	150 U	370 U	370 U	150 U	150 U	150 U	150 U	150 U
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	100 U	100 U	100 U	100 U	270 U	100 U	100 U	270 U	270 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	360 U	140 U	140 U	360 U	360 U	140 U	140 U	140 U	140 U	140 U
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	130 U	130 U	130 U	130 U	320 U	130 U	130 U	320 U	320 U	130 U	130 U	130 U	130 U	130 U
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	540 U	210 U	210 U	540 U	540 U	210 U	210 U	210 U	210 U	210 U
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	150 U	150 U	150 U	150 U	390 U	150 U	150 U	390 U	390 U	150 U	150 U	150 U	150 U	150 U
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	160 U	160 U	160 U	160 U	400 U	160 U	160 U	400 U	400 U	160 U	160 U	160 U	160 U	160 U
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	160 U	160 U	160 U	160 U	410 U	160 U	160 U	410 U	410 U	160 U	160 U	160 U	160 U	160 U
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	150 U	150 U	150 U	150 U	370 U	150 U	150 U	370 U	370 U	150 U	150 U	150 U	150 U	150 U
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	470 U	190 U	190 U	470 U	470 U	190 U	190 U	190 U	190 U	190 U
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	170 U	170 U	170 U	170 U	430 U	170 U	170 U	430 U	430 U	170 U	170 U	170 U	170 U	170 U
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	140 U	140 U	140 U	140 U	340 U	140 U	140 U	340 U	340 U	140 U	140 U	140 U	140 U	140 U
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	130 U	130 U	130 U	130 U	330 U	130 U	130 U	330 U	330 U	130 U	130 U	130 U	130 U	130 U
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	90 U	90 U	90 U	90 U	230 U	90 U	90 U	230 U	230 U	90 U	90 U	90 U	90 U	90 U
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	90 U	90 U	90 U	90 U	230 U	90 U	90 U	230 U	230 U	90 U	90 U	90 U	90 U	90 U
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	93 U	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 U	93 U	93 U	93 U	93 U	93 U
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	95 U	95 U	95 U	95 U	240 U	95 U	95 U	240 U	240 U	95 U	95 U	95 U	95 U	95 U
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	96 U	96 U	96 U	96 U	240 U	96 U	96 U	240 U	240 U	96 U	96 U	96 U	96 U	96 U
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	92 U	92 U	92 U	92 U	230 U	92 U	92 U	230 U	230 U	92 U	92 U	92 U	92 U	92 U
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol	3,3'-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether	4-Methyl-phenol
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	240 U	96 U	96 U	240 U	240 U	96 U	96 U	96 U	96 U	96 U
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	280 U	280 U	700 U	280 U	280 U	700 U	700 U	280 U	280 U	280 U	280 U	280 U
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	350 U	350 U	350 U	350 U	880 U	350 U	350 U	880 U	880 U	350 U	350 U	350 U	350 U	350 U
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	330 U	330 U	330 U	330 U	840 U	330 U	330 U	840 U	840 U	330 U	330 U	330 U	330 U	330 U
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	320 U	320 U	320 U	320 U	810 U	320 U	320 U	810 U	810 U	320 U	320 U	320 U	320 U	320 U
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	310 U	310 U	780 U	310 U	310 U	780 U	780 U	310 U	310 U	310 U	310 U	310 U
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	310 U	310 U	780 U	310 U	310 U	780 U	780 U	310 U	310 U	310 U	310 U	310 U
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	290 U	290 U	750 U	290 U	290 U	750 U	750 U	290 U	290 U	290 U	290 U	290 U
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	290 U	290 U	750 U	290 U	290 U	750 U	750 U	290 U	290 U	290 U	290 U	290 U
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	240 U	240 U	600 U	240 U	240 U	600 U	600 U	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	220 U	220 U	570 U	220 U	220 U	570 U	570 U	220 U	220 U	220 U	220 U	220 U
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 U	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	400 U	160 U	160 U	400 U	400 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	250 U	250 U	640 U	250 U	250 U	640 U	640 U	250 U	250 U	250 U	250 U	250 U
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	510 U	200 U	200 U	510 U	510 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	300 U	300 U	750 U	300 U	300 U	750 U	750 U	300 U	300 U	300 U	300 U	300 U
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	500 U	200 U	200 U	500 U	500 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	490 U	190 U	190 U	490 U	490 U	190 U	190 U	190 U	190 U	190 U
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	580 U	230 U	230 U	580 U	580 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	510 U	200 U	200 U	510 U	510 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	240 U	240 U	620 U	240 U	240 U	620 U	620 U	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	580 U	230 U	230 U	580 U	580 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	180 U	180 U	180 U	180 U	460 U	180 U	180 U	460 U	460 U	180 U	180 U	180 U	180 U	180 U
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	490 U	190 U	190 U	490 U	490 U	190 U	190 U	190 U	190 U	190 U
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	510 U	200 U	200 U	510 U	510 U	200 U	200 U	200 U	200 U	200 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol	3,3'-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether	4-Methyl-phenol
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	210 U	85 U	85 U	210 U	210 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	420 U	170 U	170 U	420 U	420 U	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	570 U	230 U	230 U	570 U	570 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	580 U	230 U	230 U	580 U	580 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	540 U	210 U	210 U	540 U	540 U	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	220 U	220 U	550 U	220 U	220 U	550 U	550 U	220 U	220 U	220 U	220 U	220 U
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	94 U	94 U	94 U	94 U	240 U	94 U	94 U	240 U	240 U	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	580 U	230 U	230 U	580 U	580 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	500 U	200 U	200 U	500 U	500 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	220 U	89 U	89 U	220 U	220 U	89 U	89 U	89 U	89 U	89 U
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	350 U	140 U	140 U	350 U	350 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	83 U	83 U	83 U	83 U	210 U	83 U	83 U	210 U	210 U	83 U	83 U	83 U	83 U	83 U
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	400 U	160 U	160 U	400 U	400 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 UJ	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	230 U	91 U	91 U	230 U	230 UJ	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	90 U	90 U	90 U	90 U	230 U	90 U	90 U	230 U	230 UJ	90 U	90 U	90 U	90 U	90 U
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 UJ	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 UJ	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 UJ	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	370 U	150 U	150 U	370 U	370 UJ	150 U	150 U	150 U	150 U	150 U
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	400 U	160 U	160 U	400 U	400 UJ	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	84 U	84 U	84 U	84 U	210 U	84 U	84 U	210 U	210 UJ	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	92 U	92 U	92 U	92 U	230 U	92 U	92 U	230 U	230 UJ	92 U	92 U	92 U	92 U	92 U
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	480 U	190 U	190 U	480 U	480 UJ	190 U	190 U	190 U	190 U	190 U
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	83 U	83 U	83 U	83 U	210 U	83 U	83 U	210 U	210 UJ	83 U	83 U	83 U	83 U	83 U
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	590 U	230 U	230 U	590 U	590 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	94 U	94 U	94 U	94 U	240 U	94 U	94 U	240 U	240 U	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	94 UJ	94 U	94 U	94 U	240 U	94 U	94 U	240 U	240 UJ	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	170 UJ	170 U	170 U	170 U	440 U	170 U	170 U	440 U	440 UJ	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	230 U	91 U	91 U	230 U	230 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	99 UJ	99 U	99 U	99 U	250 U	99 U	99 U	250 U	250 UJ	99 U	99 U	99 U	99 U	99 U
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	210 UJ	210 U	210 U	210 U	520 U	210 U	210 U	520 U	520 UJ	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	92 UJ	92 U	92 U	92 U	230 U	92 U	92 U	230 U	230 UJ	92 U	92 U	92 U	92 U	92 U
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	86 UJ	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 UJ	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	99 UJ	99 U	99 U	99 U	250 U	99 U	99 U	250 U	250 UJ	99 U	99 U	99 U	99 U	99 U
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	94 UJ	94 U	94 U	94 U	240 U	94 U	94 U	240 U	240 UJ	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	200 UJ	200 U	200 U	200 U	500 U	200 U	200 U	500 U	500 UJ	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	520 U	210 U	210 U	520 U	520 U	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	240 UJ	240 U	240 U	240 U	600 U	240 U	240 U	600 U	600 UJ	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	230 UJ	230 U	230 U	230 U	570 U	230 U	230 U	570 U	570 UJ	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	210 U	210 U	530 U	210 U	210 U	530 U	530 U	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	350 U	140 U	140 U	350 U	350 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	93 U	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 U	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	220 U	220 U	550 U	220 U	220 U	550 U	550 U	220 U	220 U	220 U	220 U	120 J
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	240 U	97 U	97 U	240 U	240 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	570 U	230 U	230 U	570 U	570 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	290 U	110 U	110 U	290 U	290 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	250 U	250 U	640 U	250 U	250 U	640 U	640 U	250 U	250 U	250 U	250 U	250 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol	3,3'-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether	4-Methyl-phenol
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	88 U	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 U	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	500 U	200 U	200 U	500 U	500 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	230 U	91 U	91 U	230 U	230 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	420 U	170 U	170 U	420 U	420 U	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	200 U	200 U	200 U	200 U	500 U	200 U	200 U	500 U	500 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	180 U	180 U	180 U	180 U	450 U	180 U	180 U	450 U	450 U	180 U	180 U	180 U	180 U	180 U
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	440 U	170 U	170 U	440 U	440 U	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	95 U	95 U	95 U	95 U	240 U	95 U	95 U	240 U	240 U	95 U	95 U	95 U	95 U	95 U
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	85 U	85 U	85 U	85 U	220 U	85 U	85 U	220 U	220 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	250 U	98 U	98 U	250 U	250 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	290 U	120 U	120 U	290 U	290 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	380 U	150 U	150 U	380 U	380 UJ	150 U	150 U	150 U	150 U	150 U
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	410 U	160 U	160 U	410 U	410 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	240 U	240 U	610 U	240 U	240 U	610 U	610 U	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	250 U	98 U	98 U	250 U	250 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	290 U	120 U	120 U	290 U	290 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	330 U	130 U	130 U	330 U	330 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	290 U	110 U	110 U	290 U	290 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	250 U	98 U	98 U	250 U	250 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	360 U	140 U	140 U	360 U	360 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	130 U	330 U	130 U	130 U	130 U	130 U	83 U	130 U	330 U	130 U	130 U	130 U	130 U	83 U
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	93 UJ	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 UJ	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	100 UJ	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 UJ	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	130 UJ	130 U	130 U	130 U	330 U	130 U	130 U	330 U	330 UJ	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	120 UJ	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 UJ	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	88 UJ	88 U	88 U	88 U	220 U	88 U	88 U	220 U	220 UJ	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	98 UJ	98 U	98 U	98 U	250 U	98 U	98 U	250 U	250 UJ	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	110 UJ	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 UJ	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	360 U	140 U	140 U	360 U	360 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	250 U	98 U	98 U	250 U	250 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	160 U	160 U	160 U	160 U	410 U	160 U	160 U	410 U	410 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	340 U	140 U	140 U	340 U	340 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	240 U	96 U	96 U	240 U	240 U	96 U	96 U	96 U	96 U	96 U
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	98 U	98 U	98 U	98 U	250 U	98 U	98 U	250 U	250 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	330 U	130 U	130 U	330 U	330 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	250 U	100 U	100 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	330 U	130 U	130 U	330 U	330 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol	3,3'-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether	4-Methyl-phenol
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	230 U	89 U	89 U	230 U	230 U	89 U	89 U	89 U	89 U	89 U
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	89 U	89 U	89 U	89 U	230 U	89 U	89 U	230 U	230 U	89 U	89 U	89 U	89 U	89 U
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	250 U	97 U	97 U	250 U	250 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	230 U	91 U	91 U	230 U	230 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	86 U	86 U	86 U	86 U	220 U	86 U	86 U	220 U	220 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	240 U	97 U	97 U	240 U	240 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	91 U	91 U	91 U	230 U	91 U	91 U	230 U	230 UJ	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	87 U	87 U	87 U	87 U	220 U	87 U	87 U	220 U	220 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	93 UJ	93 U	93 U	93 U	240 U	93 U	93 U	240 U	240 UJ	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	100 UJ	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 UJ	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	240 U	96 U	96 U	240 U	240 U	96 U	96 U	96 U	96 U	96 U
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	97 U	97 U	97 U	97 U	240 U	97 U	97 U	240 U	240 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	250 U	100 U	100 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	270 U	100 U	100 U	270 U	270 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	290 U	120 U	120 U	290 U	290 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	290 U	110 U	110 U	290 U	290 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	96 U	96 U	96 U	96 U	240 U	96 U	96 U	240 U	240 U	96 U	96 U	96 U	96 U	96 U
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	180 U	180 U	180 U	180 U	460 U	180 U	180 U	460 U	460 U	180 U	180 U	180 U	180 U	180 U
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	310 U	120 U	120 U	310 U	310 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 UJ	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	310 U	120 U	120 U	310 U	310 UJ	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 UJ	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 UJ	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	250 U	100 U	100 U	250 U	250 UJ	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	290 U	120 U	120 U	290 U	290 UJ	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	250 U	100 U	100 U	250 U	250 UJ	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	420 U	170 U	170 U	420 U	420 UJ	170 U	170 U	170 U	170 U	170 U
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	290 U	110 U	110 U	290 U	290 UJ	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	170 U	170 U	170 U	170 U	430 U	170 U	170 U	430 U	430 UJ	170 U	170 U	170 U	170 U	170 U
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	190 U	190 U	190 U	190 U	480 U	190 U	190 U	480 U	480 UJ	190 U	190 U	190 U	190 U	190 U
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	150 U	150 U	150 U	150 U	370 U	150 U	150 U	370 U	370 UJ	150 U	150 U	150 U	150 U	150 U
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	340 U	130 U	130 U	340 U	340 U	130 U	130 U	130 U	130 U	130 U
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	140 U	140 U	140 U	140 U	350 U	140 U	140 U	350 U	350 U	140 U	140 U	140 U	140 U	140 U
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	310 U	120 U	120 U	310 U	310 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	310 U	120 U	120 U	310 U	310 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	250 U	100 U	100 U	250 U	250 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	290 U	110 U	110 U	290 U	290 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	330 U	130 U	130 U	330 U	330 U	130 U	130 U	130 U	130 U	130 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol	3,3'-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether	4-Methyl-phenol
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	320 U	130 U	130 U	320 U	320 U	130 U	130 U	130 U	130 U	130 U
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 UJ	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	120 U	120 U	120 U	300 U	120 U	120 U	300 U	300 UJ	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	100 U	100 U	100 U	260 U	100 U	100 U	260 U	260 UJ	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 UJ	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	230 U	230 U	590 U	230 U	230 U	590 U	590 UJ	230 U	230 U	230 U	230 U	230 U
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	290 U	110 U	110 U	290 U	290 UJ	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	270 U	110 U	110 U	270 U	270 UJ	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	110 U	110 U	110 U	280 U	110 U	110 U	280 U	280 UJ	110 U	110 U	110 U	110 U	110 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	4-Nitro-aniline	4-Nitro-phenol	Aceto-phenone	Benz-aldehyde	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Capro-lactam
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UJ	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	91 U	91 U	91 UJ	91 U	91 U	91 U	91 U	91 U	91 U
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	92 U	92 U	92 UJ	92 U	92 U	92 U	92 U	92 U	92 U
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	93 U	93 U	93 UJ	93 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	93 U	93 U	93 UJ	93 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	400 U	400 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	55 J
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	320 U	320 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 U	85 UJ	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	90 U	90 U	90 UJ	90 U	90 U	90 U	90 U	90 U	90 U
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UJ	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 U	85 UJ	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	99 U	99 U	99 UJ	99 U	99 U	99 U	99 U	99 U	99 U
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UJ	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UJ	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 UJ	87 U	87 U	87 U	87 U	87 U	87 U
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 U	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UR	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 U	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UR	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UR	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	91 U	91 U	91 UR	91 U	91 U	91 U	91 U	91 U	91 U
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 U	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 U	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UR	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	220 UR	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	220 UR	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	220 UR	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	98 U	98 U	98 UR	98 U	98 U	98 U	98 U	98 U	98 U
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	260 UJ	260 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	93 U	93 U	93 UR	93 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UJ	86 U	86 U	86 U	86 U	86 U	86 U
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	150
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 UJ	87 U	87 U	87 U	87 U	87 U	87 U
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	360 U	360 U	140 U	140 U	140 UJ	140 U	140 U	140 U	140 U	140 U	140 U
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	89 U	89 U	89 UJ	89 U	89 U	89 U	89 U	89 U	89 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	4-Nitro-aniline	4-Nitro-phenol	Aceto-phenone	Benz-aldehyde	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Capro-lactam
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	320 U	320 U	130 U	130 U	130 UJ	130 U	130 U	130 U	130 U	130 U	130 U
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	93 U	93 U	93 UJ	93 U	93 U	93 U	93 U	93 U	93 U
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	90 U	90 U	90 UJ	90 U	90 U	90 U	90 U	90 U	90 U
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 U	85 UJ	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 U	85 UJ	85 U	85 U	85 U	85 U	85 U	85 U
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	95 U	95 U	95 UJ	95 U	95 U	95 U	95 U	95 U	95 U
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UR	110 U	110 U	110 U	25 J	110 U	110 U
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	550 U	550 U	220 U	220 U	220 UR	220 U	220 U	220 U	220 U	220 U	220 U
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	290 U	290 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	97 U	97 UJ	97 UR	97 U	97 U	97 U	97 U	97 U	97 U
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	240 U	240 U	95 U	95 U	95 UR	95 U	95 U	95 U	95 U	95 U	95 U
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	240 U	240 U	96 U	96 U	96 UR	96 U	96 U	96 U	96 U	96 U	96 U
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	240 U	240 U	95 U	95 U	95 UR	95 U	95 U	95 U	95 U	95 U	95 U
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	230 U	230 U	93 U	93 U	93 UR	93 U	93 U	93 U	93 U	93 U	93 U
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	240 U	240 U	93 U	93 U	93 UR	93 U	93 U	93 U	93 U	93 U	93 U
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	580 U	580 U	230 U	230 UJ	230 UR	230 U	230 U	230 U	230 U	230 U	230 U
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	450 U	450 U	180 U	180 UJ	180 UR	180 U	180 U	180 U	71 J	180 U	180 U
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	260 U	260 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	260 U	260 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	370 U	370 U	150 U	150 UJ	150 UR	150 U	150 U	150 U	150 U	150 U	150 U
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	300 U	300 U	120 U	120 UJ	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	270 U	270 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	260 U	260 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	270 U	270 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	360 U	360 U	140 U	140 U	140 UR	140 U	140 U	140 U	140 U	140 U	140 U
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	320 U	320 U	130 U	130 U	130 UR	130 U	130 U	130 U	130 U	130 U	130 U
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	540 U	540 U	210 U	210 U	210 UR	210 U	210 U	210 U	210 U	210 U	210 U
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	390 U	390 U	150 U	150 U	150 UR	150 U	150 U	150 U	150 U	150 U	150 U
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	400 U	400 U	160 U	160 U	160 UR	160 U	160 U	160 U	160 U	160 U	160 U
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	410 U	410 U	160 U	160 U	160 UR	160 U	160 U	160 U	160 U	160 U	160 U
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	370 U	370 U	150 U	150 U	150 UR	150 U	150 U	150 U	150 U	150 U	150 U
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	470 U	470 U	190 U	190 U	190 UR	190 U	190 U	190 U	190 U	190 U	190 U
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	430 U	430 U	170 U	170 U	170 UR	170 U	170 U	170 U	37 J	170 U	170 U
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	340 U	340 U	140 U	140 U	140 UR	140 U	140 U	140 U	140 U	140 U	140 U
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	330 U	330 U	130 U	130 U	130 UR	130 U	130 U	130 U	130 U	130 U	130 U
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UR	86 U	86 U	86 U	86 U	86 U	86 U
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UR	86 U	86 U	86 U	86 U	86 U	86 U
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	230 U	230 U	90 U	90 U	90 UR	90 U	90 U	90 U	90 U	90 U	90 U
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	230 U	230 U	90 U	90 U	90 UR	90 U	90 U	90 U	90 U	90 U	90 U
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 UR	87 U	87 U	87 U	87 U	87 U	87 U
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	240 U	240 U	93 U	93 U	93 UR	93 U	93 U	93 U	93 U	93 U	93 U
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	95 U	95 UJ	95 UR	95 U	95 U	95 U	95 U	95 U	95 U
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	240 U	240 U	96 U	96 U	96 UR	96 U	96 U	96 U	96 U	96 U	96 U
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	230 U	230 U	92 U	92 U	92 UR	92 U	92 U	92 U	92 U	92 U	92 U
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UR	88 U	88 U	88 U	88 U	88 U	88 U
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	4-Nitro-aniline	4-Nitro-phenol	Aceto-phenone	Benz-aldehyde	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Capro-lactam
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	96 U	96 U	96 UJ	96 U	96 U	96 U	96 U	96 U	96 U
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	700 U	700 U	280 U	280 UJ	280 UR	280 U	280 U	280 U	280 U	280 U	280 U
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	880 U	880 U	350 U	350 UJ	350 UR	350 U	350 U	350 U	350 U	350 U	350 U
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 UJ	86 UR	86 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 UJ	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	840 U	840 U	330 U	330 UJ	330 UR	330 U	330 U	330 U	330 U	330 U	330 U
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	810 U	810 U	320 U	320 UJ	320 UR	320 U	320 U	320 U	320 U	320 U	320 U
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	780 U	780 U	310 U	310 UJ	310 UR	310 U	310 U	310 U	310 U	310 U	310 U
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	780 U	780 U	310 U	310 UJ	310 UR	310 U	310 U	310 U	310 U	310 U	310 U
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	750 U	750 U	290 U	290 UJ	290 UR	290 U	290 U	290 U	290 U	290 U	290 U
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	750 U	750 U	290 U	290 UJ	290 UR	290 U	290 U	290 U	290 U	290 U	290 U
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 UJ	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	600 U	600 U	240 U	240 UJ	240 UR	240 U	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	570 U	570 U	220 U	220 UJ	220 UR	220 U	220 U	220 U	220 U	220 U	220 U
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 UJ	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	93 U	93 UJ	93 UR	93 U	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	400 U	400 U	160 U	160 U	160 UR	160 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 UR	86 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 UJ	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	640 U	640 U	250 U	250 UJ	250 UR	250 U	250 U	250 U	250 U	250 U	250 U
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	510 U	510 U	200 U	200 UJ	200 UR	200 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 UJ	88 UR	88 U	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 UJ	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	750 U	750 U	300 U	300 UJ	300 UJ	300 U	300 U	300 U	300 U	300 U	300 U
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	500 U	500 U	200 U	200 UJ	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 UJ	85 UJ	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	490 U	490 U	190 U	190 U	190 UR	190 U	190 U	190 U	190 U	190 U	190 U
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	580 U	580 U	230 U	230 UJ	230 UR	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 UJ	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	510 U	510 U	200 U	200 UJ	200 UR	200 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 UJ	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	620 U	620 U	240 U	240 UJ	240 UR	240 U	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	580 U	580 U	230 U	230 UJ	230 UR	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	460 U	460 U	180 U	180 UJ	180 UR	180 U	180 U	180 U	180 U	180 U	180 U
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 UJ	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 UJ	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	490 U	490 U	190 U	190 UJ	190 UR	190 U	190 U	190 U	190 U	190 U	190 U
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	510 U	510 U	200 U	200 UJ	200 UR	200 U	200 U	200 U	200 U	200 U	200 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	4-Nitro-aniline	4-Nitro-phenol	Aceto-phenone	Benz-aldehyde	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Capro-lactam
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	85 U	85 UJ	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	420 U	420 U	170 U	170 UJ	170 UJ	170 U	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	570 U	570 U	230 U	230 UJ	230 UR	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	580 U	580 U	230 U	230 UJ	230 UR	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	540 U	540 U	210 U	210 UJ	210 UR	210 U	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	550 U	550 U	220 U	220 UJ	220 UR	220 U	220 U	220 U	220 U	220 U	220 U
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 UJ	86 UR	86 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	94 U	94 UJ	94 UJ	94 U	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	580 U	580 U	230 U	230 UJ	230 UJ	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 UJ	85 UJ	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 U	85 UR	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	500 U	500 U	200 U	200 U	200 UR	200 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	89 U	89 U	89 UR	89 U	89 U	89 U	34 J	89 U	89 U
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	350 U	350 U	140 U	140 U	140 UR	140 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	83 U	83 U	83 UR	83 U	83 U	83 U	83 U	83 U	83 U
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	400 U	400 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 U	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UR	88 U	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	91 U	91 U	91 UR	91 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	90 U	90 U	90 UR	90 U	90 U	90 U	90 U	90 U	90 U
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UR	88 U	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	370 U	370 U	150 U	150 U	150 UR	150 U	150 U	150 U	150 U	150 U	150 U
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	400 U	400 U	160 U	160 U	160 UR	160 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	84 U	84 U	84 UR	84 U	84 U	84 U	84 U	84 U	84 U
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	92 U	92 U	92 UR	92 U	92 U	92 U	92 U	92 U	92 U
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	480 U	480 U	190 U	190 U	190 UR	190 U	190 U	190 U	190 U	190 U	190 U
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	210 U	210 U	83 U	83 U	83 UR	83 U	83 U	83 U	83 U	83 U	83 U
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	590 U	590 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	94 U	94 U	240 UR	94 U	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	440 U	440 U	170 U	170 U	440 UR	170 U	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	99 U	99 U	250 UR	99 U	99 U	99 U	99 U	99 U	99 U
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	520 U	520 U	210 U	210 U	520 UR	210 U	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	92 U	92 U	230 UR	92 U	92 U	92 U	92 U	92 U	92 U
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	220 UR	86 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	99 U	99 U	250 UR	99 U	99 U	99 U	99 U	99 U	99 U
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	94 U	94 U	240 UJ	94 U	94 U	94 U	94 U	94 U	94 U
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	500 U	500 U	200 U	200 U	500 UJ	200 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	520 U	520 U	210 U	210 U	210 UJ	210 U	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	600 U	600 U	240 U	240 U	600 UJ	240 U	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	570 U	570 U	230 U	230 U	570 UJ	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	530 U	530 U	210 U	210 U	210 UJ	210 U	210 U	210 U	210 U	210 U	210 U
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	350 U	350 U	140 U	140 U	140 UJ	140 U	140 U	140 U	140 U	140 U	50 J
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	93 U	93 U	93 UJ	93 U	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	550 U	550 U	220 U	220 U	220 UJ	220 U	220 U	220 U	220 U	220 U	220 U
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	97 U	97 U	97 UJ	97 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	570 U	570 U	230 U	230 U	230 UJ	230 U	230 U	230 U	230 U	230 U	230 U
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 UJ	87 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	640 U	640 U	250 U	250 U	250 UJ	250 U	250 U	250 U	250 U	250 U	250 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	4-Nitro-aniline	4-Nitro-phenol	Aceto-phenone	Benz-aldehyde	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Capro-lactam
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	500 U	500 U	200 U	200 U	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	91 U	91 U	91 UJ	91 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	420 U	420 U	170 U	170 U	170 UJ	170 U	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	500 U	500 U	200 U	200 U	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 UJ	87 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	450 U	450 U	180 U	180 U	180 UJ	180 U	180 U	180 U	180 U	180 U	180 U
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 UJ	87 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	440 U	440 U	170 U	170 U	170 UJ	170 U	170 U	170 U	170 U	170 U	170 U
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	95 U	95 U	95 UJ	95 U	95 U	95 U	95 U	95 U	95 U
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	85 U	85 U	85 UJ	85 U	85 U	85 U	85 U	85 U	85 U
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	98 U	98 U	98 UJ	98 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	380 U	380 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	410 U	410 U	160 U	160 U	160 UR	160 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	610 U	610 U	240 U	240 U	240 UR	240 U	240 U	240 U	240 U	240 U	240 U
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	98 U	98 U	98 UR	98 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	330 UJ	330 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	300 UJ	300 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	98 U	98 U	98 UR	98 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	360 U	360 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	330 U	83 U	130 U
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	93 U	93 U	240 UR	93 U	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	260 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	330 U	330 U	130 U	130 U	330 UR	130 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	300 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	88 U	88 U	220 UR	88 U	88 U	88 U	88 U	88 U	88 U
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	98 U	98 U	250 UJ	98 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	280 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	360 U	360 U	140 U	140 U	140 UJ	140 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	98 U	98 U	98 UJ	98 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	410 U	410 U	160 U	160 U	160 UJ	160 U	160 U	160 U	160 U	160 U	160 U
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 UJ	87 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	340 U	340 U	140 U	140 U	140 UJ	140 U	140 U	140 U	140 U	140 U	140 U
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	76 J
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	96 U	96 U	96 UJ	96 U	96 U	96 U	96 U	96 U	96 U
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	98 U	98 U	98 UJ	98 U	98 U	98 U	98 U	98 U	98 U
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	330 U	330 U	130 U	130 U	130 UJ	130 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	330 U	330 U	130 U	130 U	130 UJ	130 U	130 U	130 U	130 U	130 U	130 U
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U

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Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	4-Nitro-aniline	4-Nitro-phenol	Aceto-phenone	Benz-aldehyde	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Capro-lactam
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	89 U	89 U	89 UR	89 U	89 U	89 U	89 U	89 U	89 U
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	89 U	89 U	89 UR	89 U	89 U	89 U	89 U	89 U	89 U
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	230 U	230 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	220 U	220 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	93 U	93 U	240 UR	93 U	93 U	93 U	93 U	93 U	93 U
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	96 U	96 U	96 UJ	96 U	96 U	96 U	96 U	96 U	96 U
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	97 U	97 U	97 UJ	97 U	97 U	97 U	97 U	97 U	97 U
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	26 J	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	37 J	100 U	100 U
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 UJ	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	120 U	120 UJ	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	240 U	240 U	96 U	96 UJ	96 UR	96 U	96 U	96 U	96 U	96 U	96 U
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 UJ	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	460 U	460 U	180 U	180 UJ	180 UR	180 U	180 U	180 U	180 U	180 U	180 U
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	120 U	120 UJ	120 UR	120 U	120 U	120 U	120 U	120 U	43 J
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 UJ	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	420 U	420 U	170 U	170 U	170 UR	170 U	170 U	170 U	170 U	170 U	170 U
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	430 U	430 U	170 U	170 U	170 UR	170 U	170 U	170 U	170 U	170 U	170 U
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	480 U	480 U	190 U	190 U	190 UR	190 U	190 U	63 J	190 U	190 U	190 U
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	370 U	370 U	150 U	150 U	150 UR	150 U	150 U	150 U	150 U	150 U	150 U
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	340 U	340 U	130 U	130 U	130 UR	130 U	130 U	130 U	130 U	130 U	130 U
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	350 U	350 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	310 U	310 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	250 U	250 U	100 U	100 U	100 UR	100 U	100 U	100 U	40 J	100 U	100 U
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	330 U	330 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	4-Nitro-aniline	4-Nitro-phenol	Aceto-phenone	Benz-aldehyde	Benzoic acid	Benzyl alcohol	Bis(2-Chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-Ethylhexyl) phthalate	Butyl benzyl phthalate	Capro-lactam
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	320 U	320 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	300 U	300 U	120 U	120 U	120 UR	120 U	120 U	120 U	120 U	120 U	120 U
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	260 U	260 U	100 U	100 U	100 UR	100 U	100 U	100 U	100 U	100 U	100 U
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	590 U	590 U	230 U	230 U	230 UR	230 U	230 U	230 U	230 U	230 U	230 U
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	290 U	290 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	270 U	270 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	280 U	280 U	110 U	110 U	110 UR	110 U	110 U	110 U	110 U	110 U	110 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Carbazole	Dibenzo-furan	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octylphthalate	Hexachloro-ethane	Iso-phorone	Nitro-benzene	N-Nitrosodi-n-propylamine	N-Nitroso-diphenylamine	Penta-chlorophenol	Hexachloro-cyclopentadiene	Phenol
Beach Subsample	RM642B1c	642	4/15/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 UJ	86 U	86 U
Beach Subsample	RM642B1L	642	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	5 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	230 UJ	91 U	91 U
Beach Subsample	RM642B1R	642	4/15/05	0 to 0.5 (ft)	ug/kg	92 U	5 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	230 UJ	92 U	92 U
Beach Subsample	RM642B2c	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 UJ	100 U	100 U
Beach Subsample	RM642B2L	642	4/15/05	0 to 0.5 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 UJ	93 U	93 U
Beach Subsample	RM642B2R	642	4/15/05	0 to 0.5 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U
Beach Subsample	RM642B3c	642	4/15/05	0 to 0.5 (ft)	ug/kg	160 U	8 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U
Beach Subsample	RM642B3L	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Beach Subsample	RM642B3R	642	4/15/05	0 to 0.5 (ft)	ug/kg	130 U	6 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U
Beach Subsample	RM700B1c	700	4/12/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U
Beach Subsample	RM700B1L	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample	RM700B1R	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample	RM700B2c	700	4/12/05	0 to 0.5 (ft)	ug/kg	90 U	5 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U
Beach Subsample	RM700B2L	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample	RM700B2R	700	4/12/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Beach Subsample	RM700B3c	700	4/12/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U
Beach Subsample	RM700B3L	700	4/12/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Beach Subsample	RM700B3R	700	4/12/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Beach Subsample	RM735B1c	735	4/11/05	0 to 0.5 (ft)	ug/kg	99 U	0.4 J	99 U	99 U	99 U	99 U	99 U	99 U	99 U	99 U	99 U	250 U	99 U	99 U
Beach Subsample	RM735B1L	735	4/11/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Beach Subsample	RM735B1R	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	2 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Beach Subsample	RM735B2c	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	0.4 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Beach Subsample	RM735B2L	735	4/11/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Beach Subsample	RM735B2R	735	4/11/05	0 to 0.5 (ft)	ug/kg	100 U	2 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Beach Subsample	RM735B3c	735	4/11/05	0 to 0.5 (ft)	ug/kg	120 U	0.9 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U
Beach Subsample	RM735B3L	735	4/11/05	0 to 0.5 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Beach Subsample	RM735B3R	735	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	0.2 J	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Beach Subsample Composite	RM600B1	600	4/19/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U
Beach Subsample Composite	RM600B2	600	4/19/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Beach Subsample Composite	RM600B3	600	4/19/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Beach Subsample Composite	RM615B1	615	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample Composite	RM615B2	615	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample Composite	RM615B3	615	4/19/05	0 to 0.5 (ft)	ug/kg	91 U	5 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U
Beach Subsample Composite	RM633B1	633	4/18/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Beach Subsample Composite	RM633B2	633	4/18/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Beach Subsample Composite	RM633B3	633	4/18/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Beach Subsample Composite	RM658B1	658	4/14/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 UJ	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Beach Subsample Composite	RM658B2	658	4/14/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample Composite	RM658B3	658	4/14/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample Composite	RM673B1	673	4/16/05	0 to 0.5 (ft)	ug/kg	98 U	5 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U
Beach Subsample Composite	RM673B2	673	4/16/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Beach Subsample Composite	RM673B3	673	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Beach Subsample Composite	RM675B1	675	4/16/05	0 to 0.5 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	230 U	93 U	93 U
Beach Subsample Composite	RM675B2	675	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Beach Subsample Composite	RM675B3	675	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	0.5 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Beach Subsample Composite	RM690B1	690	4/13/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Beach Subsample Composite	RM690B2	690	4/13/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample Composite	RM690B3	690	4/13/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Beach Subsample Composite	RM697B1	697	4/13/05	0 to 0.5 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Beach Subsample Composite	RM697B2	697	4/13/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Beach Subsample Composite	RM697B3	697	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	7 UJ	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U
Beach Subsample Composite	RM708B1	708	4/7/05	0 to 0.5 (ft)	ug/kg	130 U	0.3 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U
Beach Subsample Composite	RM708B2	708	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	10	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Beach Subsample Composite	RM708B3	708	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	4 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Beach Subsample Composite	RM718B1	718	4/6/05	0 to 0.5 (ft)	ug/kg	89 U	0.2 J	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	230 U	89 U	89 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Carbazole	Dibenzo-furan	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octylphthalate	Hexachloro-ethane	Iso-phorone	Nitro-benzene	N-Nitrosodi-n-propylamine	N-Nitroso-diphenylamine	Penta-chlorophenol	Hexachloro-cyclopentadiene	Phenol
Beach Subsample Composite	RM718B2	718	4/6/05	0 to 0.5 (ft)	ug/kg	130 U	2 J	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U
Beach Subsample Composite	RM718B3	718	4/6/05	0 to 0.5 (ft)	ug/kg	110 U	2 J	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Beach Subsample Composite	RM729B1	729	4/8/05	0 to 0.5 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U
Beach Subsample Composite	RM729B2	729	4/8/05	0 to 0.5 (ft)	ug/kg	90 U	5 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U
Beach Subsample Composite	RM729B3	729	4/8/05	0 to 0.5 (ft)	ug/kg	88 U	0.2 J	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Beach Subsample Composite	RM742B1	742	4/9/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U
Beach Subsample Composite	RM742B2	742	4/9/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U
Beach Subsample Composite	RM742B3	742	4/9/05	0 to 0.5 (ft)	ug/kg	95 U	5 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U
Bioassay/Porewater Sample	RM687A1	687	4/20/05	0 to 0.5 (ft)	ug/kg	120 U	0.5 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 UJ	120 U	310 U	120 U	120 U
Bioassay/Porewater Sample	RM730A1	730	4/23/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Bioassay/Porewater Sample	RM734A1	734	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	0.9 J	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Core Sample	RM605C1	605	5/3/05	0 to 1 (ft)	ug/kg	220 U	0.4 J	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	550 U	220 U	220 U
Core Sample	RM605C1	605	5/3/05	1 to 3 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U
Core Sample	RM605C1	605	5/3/05	3 to 5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Core Sample	RM622C1	622	5/2/05	0 to 0.5 (ft)	ug/kg	97 U	5 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	250 U	97 U	97 U
Core Sample	RM622C1	622	5/2/05	0 to 1 (ft)	ug/kg	95 U	5 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U
Core Sample	RM622C1	622	5/2/05	1 to 3 (ft)	ug/kg	96 U	5 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U
Core Sample	RM622C1	622	5/2/05	3 to 5 (ft)	ug/kg	95 U	5 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U
Core Sample	RM622C1	622	5/2/05	5 to 7 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	230 U	93 U	93 U
Core Sample	RM622C1	622	5/2/05	7 to 9 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U
Core Sample	RM637C1	637	4/29/05	0 to 0.5 (ft)	ug/kg	230 U	12 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U
Core Sample	RM637C1	637	4/29/05	0 to 1 (ft)	ug/kg	180 U	9 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	450 U	180 U	180 U
Core Sample	RM637C1	637	4/29/05	1 to 3 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Core Sample	RM637C1	637	4/29/05	3 to 5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Core Sample	RM644C1	644	4/26/05	0 to 0.5 (ft)	ug/kg	150 U	7 UJ	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U
Core Sample	RM644C1	644	4/26/05	0 to 1 (ft)	ug/kg	120 U	6 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Core Sample	RM644C1	644	4/26/05	1 to 3 (ft)	ug/kg	110 U	5 UJ	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Core Sample	RM644C1	644	4/26/05	3 to 5 (ft)	ug/kg	100 U	0.2 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Core Sample	RM644C1	644	4/26/05	5 to 7 (ft)	ug/kg	100 U	5 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	270 U	100 U	100 U
Core Sample	RM661C1	661	4/29/05	0 to 0.5 (ft)	ug/kg	140 U	7 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U
Core Sample	RM661C1	661	4/29/05	0 to 1 (ft)	ug/kg	130 U	6 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U
Core Sample	RM661C1	661	4/29/05	1 to 3 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Core Sample	RM661C1	661	4/29/05	3 to 5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Core Sample	RM661C1	661	4/29/05	5 to 7 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Core Sample	RM676C1	676	4/25/05	0 to 0.5 (ft)	ug/kg	210 U	3 J	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	540 U	210 U	210 U
Core Sample	RM676C1	676	4/25/05	0 to 1 (ft)	ug/kg	150 U	8 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	390 U	150 U	150 U
Core Sample	RM676C1	676	4/25/05	1 to 3 (ft)	ug/kg	160 U	6 J	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U
Core Sample	RM676C1	676	4/25/05	3 to 5 (ft)	ug/kg	160 U	8 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	410 U	160 U	160 U
Core Sample	RM676C1	676	4/25/05	5 to 7 (ft)	ug/kg	150 U	4 J	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U
Core Sample	RM692C1	692	4/23/05	0 to 0.5 (ft)	ug/kg	190 U	9 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	470 U	190 U	190 U
Core Sample	RM692C1	692	4/23/05	0 to 1 (ft)	ug/kg	170 U	9 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	430 U	170 U	170 U
Core Sample	RM692C1	692	4/23/05	1 to 3 (ft)	ug/kg	140 U	1 J	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	340 UJ	140 UJ	140 U
Core Sample	RM692C1	692	4/23/05	3 to 5 (ft)	ug/kg	100 U	0.6 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 UJ	100 UJ	100 U
Core Sample	RM692C1	692	4/23/05	5 to 7 (ft)	ug/kg	130 U	2 J	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	330 UJ	130 U	130 U
Core Sample	RM704C1	704	4/22/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Core Sample	RM704C1	704	4/22/05	0 to 1 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Core Sample	RM704C1	704	4/22/05	1 to 3 (ft)	ug/kg	90 U	5 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U
Core Sample	RM704C1	704	4/22/05	3 to 5 (ft)	ug/kg	90 U	5 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U
Core Sample	RM704C1	704	4/22/05	5 to 7 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Core Sample	RM704C1	704	4/22/05	7 to 9 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U
Core Sample	RM708C1	708	4/23/05	0 to 0.5 (ft)	ug/kg	95 U	5 UJ	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U
Core Sample	RM708C1	708	4/23/05	0 to 1 (ft)	ug/kg	96 U	5 UJ	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U
Core Sample	RM708C1	708	4/23/05	1 to 3 (ft)	ug/kg	92 U	5 UJ	92 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	230 U	92 U	92 U
Core Sample	RM708C1	708	4/23/05	3 to 5 (ft)	ug/kg	88 U	4 UJ	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Core Sample	RM708C1	708	4/23/05	5 to 7 (ft)	ug/kg	100 U	5 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Carbazole	Dibenzo-furan	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octylphthalate	Hexachloro-ethane	Iso-phorone	Nitro-benzene	N-Nitrosodi-n-propylamine	N-Nitroso-diphenylamine	Penta-chlorophenol	Hexachloro-cyclopentadiene	Phenol
Size Fractioned Sample (Bulk)	RM642BSF	642	4/15/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Size Fractioned Sample (Bulk)	RM700BSF	700	4/12/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Size Fractioned Sample (Bulk)	RM735BSF	735	4/11/05	0 to 0.5 (ft)	ug/kg	96 U	0.4 J	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U
Transect Sample	RM600X1	600	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U
Transect Sample	RM600X2	600	4/29/05	0 to 0.5 (ft)	ug/kg	280 U	14 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U	700 U	280 U	280 U
Transect Sample	RM600X3	600	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U
Transect Sample	RM603X2	603	4/28/05	0 to 0.5 (ft)	ug/kg	350 U	18 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	880 U	350 U	350 U
Transect Sample	RM603X3	603	4/28/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Transect Sample	RM604X1	604	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U
Transect Sample	RM604X2	604	4/28/05	0 to 0.5 (ft)	ug/kg	330 U	17 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	840 U	330 U	330 U
Transect Sample	RM604X3	604	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U
Transect Sample	RM605X2	605	4/30/05	0 to 0.5 (ft)	ug/kg	320 U	16 UJ	320 U	320 U	320 U	320 U	320 U	320 U	320 U	320 U	320 U	810 UJ	320 U	320 U
Transect Sample	RM605X3	605	4/29/05	0 to 0.5 (ft)	ug/kg	310 U	16 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	780 U	310 U	310 U
Transect Sample	RM605X4	605	4/29/05	0 to 0.5 (ft)	ug/kg	310 U	16 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	780 U	310 U	310 U
Transect Sample	RM605X5	605	4/29/05	0 to 0.5 (ft)	ug/kg	290 U	15 U	290 U	290 U	290 U	290 U	290 U	290 U	290 U	290 U	290 U	750 U	290 U	290 U
Transect Sample	RM605X6	605	4/30/05	0 to 0.5 (ft)	ug/kg	290 U	15 UJ	290 U	290 U	290 U	290 U	290 U	290 U	290 U	290 U	290 U	750 UJ	290 U	290 U
Transect Sample	RM605X7	605	4/30/05	0 to 0.5 (ft)	ug/kg	100 U	5 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 UJ	100 U	100 U
Transect Sample	RM605X9	605	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	4 UJ	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 UJ	85 U	85 U
Transect Sample	RM606X1	606	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	4 UJ	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 UJ	84 U	84 U
Transect Sample	RM606X2	606	4/30/05	0 to 0.5 (ft)	ug/kg	240 U	12 UJ	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	600 UJ	240 U	240 U
Transect Sample	RM607X1	607	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	4 UJ	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 UJ	84 U	84 U
Transect Sample	RM607X2	607	4/30/05	0 to 0.5 (ft)	ug/kg	220 U	11 UJ	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	570 UJ	220 U	220 U
Transect Sample	RM607X3	607	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	4 UJ	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 UJ	84 U	84 U
Transect Sample	RM610X1	610	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U
Transect Sample	RM610X2	610	4/30/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM610X3	610	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U
Transect Sample	RM613X1	613	4/30/05	0 to 0.5 (ft)	ug/kg	93 U	5 UJ	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 UJ	93 U	93 U
Transect Sample	RM613X2	613	5/2/05	0 to 0.5 (ft)	ug/kg	160 U	0.3 J	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U
Transect Sample	RM613X3	613	5/2/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Transect Sample	RM616X1	616	4/29/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM616X2	616	4/29/05	0 to 0.5 (ft)	ug/kg	250 U	13 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	640 U	250 U	250 U
Transect Sample	RM619X1	619	4/29/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U
Transect Sample	RM619X2	619	4/29/05	0 to 0.5 (ft)	ug/kg	200 U	10 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	510 U	200 U	200 U
Transect Sample	RM619X3	619	4/29/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Transect Sample	RM622X1	622	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Transect Sample	RM622X2	622	4/28/05	0 to 0.5 (ft)	ug/kg	300 U	15 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	750 U	300 U	300 U
Transect Sample	RM625X1	625	4/28/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM625X2	625	4/28/05	0 to 0.5 (ft)	ug/kg	200 U	10 UJ	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U
Transect Sample	RM625X3	625	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	4 UJ	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Transect Sample	RM628X2	628	5/2/05	0 to 0.5 (ft)	ug/kg	190 U	10 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	490 U	190 U	190 U
Transect Sample	RM628X3	628	5/2/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM631X1	631	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	4 UJ	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 UJ	84 U	84 U
Transect Sample	RM631X2	631	4/30/05	0 to 0.5 (ft)	ug/kg	230 U	12 UJ	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	580 UJ	230 U	230 U
Transect Sample	RM631X3	631	4/30/05	0 to 0.5 (ft)	ug/kg	84 U	4 UJ	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 UJ	84 U	84 U
Transect Sample	RM634X2	634	4/30/05	0 to 0.5 (ft)	ug/kg	200 U	10 UJ	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	510 UJ	200 U	200 U
Transect Sample	RM634X3	634	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	4 UJ	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 UJ	85 U	85 U
Transect Sample	RM637X2	637	4/29/05	0 to 0.5 (ft)	ug/kg	240 U	12 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	620 U	240 U	240 U
Transect Sample	RM637X3	637	4/29/05	0 to 0.5 (ft)	ug/kg	230 U	12 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U
Transect Sample	RM637X4	637	4/30/05	0 to 0.5 (ft)	ug/kg	180 U	9 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	460 UJ	180 U	180 U
Transect Sample	RM637X5	637	4/30/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 UJ	110 U	110 U
Transect Sample	RM637X6	637	4/30/05	0 to 0.5 (ft)	ug/kg	110 U	5 UJ	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 UJ	110 U	110 U
Transect Sample	RM637X7	637	4/30/05	0 to 0.5 (ft)	ug/kg	85 U	4 UJ	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 UJ	85 U	85 U
Transect Sample	RM640X1	640	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U
Transect Sample	RM640X2	640	4/28/05	0 to 0.5 (ft)	ug/kg	190 U	0.8 J	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	490 U	190 U	190 U
Transect Sample	RM641X2	641	4/29/05	0 to 0.5 (ft)	ug/kg	200 U	10 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	510 U	200 U	200 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Carbazole	Dibenzo-furan	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octylphthalate	Hexachloro-ethane	Iso-phorone	Nitro-benzene	N-Nitrosodi-n-propylamine	N-Nitroso-diphenylamine	Penta-chlorophenol	Hexachloro-cyclopentadiene	Phenol
Transect Sample	RM641X3	641	4/29/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	210 U	85 U	85 U
Transect Sample	RM642X2	642	4/28/05	0 to 0.5 (ft)	ug/kg	170 U	8 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	420 U	170 U	170 U
Transect Sample	RM642X3	642	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	0.9 J	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	570 U	230 U	230 U
Transect Sample	RM642X4	642	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	0.9 J	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U
Transect Sample	RM642X5	642	4/28/05	0 to 0.5 (ft)	ug/kg	210 U	11 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	540 U	210 U	210 U
Transect Sample	RM642X6	642	4/29/05	0 to 0.5 (ft)	ug/kg	220 U	11 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	550 U	220 U	220 U
Transect Sample	RM642X7	642	4/29/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Transect Sample	RM643X1	643	4/28/05	0 to 0.5 (ft)	ug/kg	94 U	5 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U
Transect Sample	RM643X2	643	4/28/05	0 to 0.5 (ft)	ug/kg	230 U	0.9 J	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	580 U	230 U	230 U
Transect Sample	RM643X3	643	4/28/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Transect Sample	RM644X1	644	4/23/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 UJ	85 UJ	85 U
Transect Sample	RM644X2	644	4/23/05	0 to 0.5 (ft)	ug/kg	200 U	10 UJ	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 UJ	200 U	200 U
Transect Sample	RM646X1	646	4/23/05	0 to 0.5 (ft)	ug/kg	89 U	4 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	220 UJ	89 U	89 U
Transect Sample	RM646X2	646	4/23/05	0 to 0.5 (ft)	ug/kg	140 U	7 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	350 UJ	140 U	140 U
Transect Sample	RM646X3	646	4/23/05	0 to 0.5 (ft)	ug/kg	83 U	4 UJ	83 U	83 U	83 U	83 U	83 U	83 U	83 U	83 U	83 U	210 UJ	83 U	83 U
Transect Sample	RM649X1	649	4/22/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Transect Sample	RM649X2	649	4/22/05	0 to 0.5 (ft)	ug/kg	160 U	0.6 J	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U
Transect Sample	RM649X3	649	4/23/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 UJ	84 U	84 U
Transect Sample	RM652X1	652	4/22/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Transect Sample	RM652X2	652	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	0.4 J	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Transect Sample	RM652X3	652	4/19/05	0 to 0.5 (ft)	ug/kg	91 U	5 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U
Transect Sample	RM655X1	655	4/19/05	0 to 0.5 (ft)	ug/kg	90 U	5 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	90 U	230 U	90 U	90 U
Transect Sample	RM655X2	655	4/19/05	0 to 0.5 (ft)	ug/kg	120 U	0.2 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM655X3	655	4/19/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Transect Sample	RM658X1	658	4/19/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM658X2	658	4/19/05	0 to 0.5 (ft)	ug/kg	150 U	8 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U
Transect Sample	RM661X2	661	4/19/05	0 to 0.5 (ft)	ug/kg	160 U	1 J	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	400 U	160 U	160 U
Transect Sample	RM661X3	661	4/19/05	0 to 0.5 (ft)	ug/kg	84 U	4 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	84 U	210 U	84 U	84 U
Transect Sample	RM664X1	664	4/19/05	0 to 0.5 (ft)	ug/kg	92 U	5 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	230 U	92 U	92 U
Transect Sample	RM664X2	664	4/19/05	0 to 0.5 (ft)	ug/kg	190 U	2 J	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	480 U	190 U	190 U
Transect Sample	RM664X3	664	4/19/05	0 to 0.5 (ft)	ug/kg	83 U	4 U	83 U	83 U	83 U	83 U	83 U	83 U	83 U	83 U	83 U	210 U	83 U	83 U
Transect Sample	RM667X1	667	4/15/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Transect Sample	RM667X2	667	4/15/05	0 to 0.5 (ft)	ug/kg	230 U	12 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	590 U	230 U	230 U
Transect Sample	RM667X3	667	4/15/05	0 to 0.5 (ft)	ug/kg	94 U	5 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U
Transect Sample	RM670X1	670	4/14/05	0 to 0.5 (ft)	ug/kg	94 U	5 U	94 UJ	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U
Transect Sample	RM670X2	670	4/14/05	0 to 0.5 (ft)	ug/kg	170 U	9 U	170 UJ	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	440 U	170 U	170 U
Transect Sample	RM670X3	670	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	5 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U
Transect Sample	RM673X1	673	4/14/05	0 to 0.5 (ft)	ug/kg	99 U	5 U	99 UJ	99 U	99 U	99 U	99 U	99 U	99 U	99 U	99 U	250 U	99 U	99 U
Transect Sample	RM673X2	673	4/14/05	0 to 0.5 (ft)	ug/kg	210 U	2 J	210 UJ	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	520 U	210 U	210 U
Transect Sample	RM673X3	673	4/14/05	0 to 0.5 (ft)	ug/kg	92 U	5 U	92 UJ	92 U	92 U	92 U	92 U	92 U	92 U	92 U	92 U	230 U	92 U	92 U
Transect Sample	RM676X1	676	4/14/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 UJ	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Transect Sample	RM676X2	676	4/14/05	0 to 0.5 (ft)	ug/kg	99 U	5 U	99 UJ	99 U	99 U	99 U	99 U	99 U	99 U	99 U	99 U	250 U	99 U	99 U
Transect Sample	RM677X1	677	4/13/05	0 to 0.5 (ft)	ug/kg	94 U	5 U	94 UJ	94 U	94 U	94 U	94 U	94 U	94 U	94 U	94 U	240 U	94 U	94 U
Transect Sample	RM677X2	677	4/13/05	0 to 0.5 (ft)	ug/kg	200 U	0.8 J	200 UJ	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U
Transect Sample	RM678X2	678	4/12/05	0 to 0.5 (ft)	ug/kg	210 U	10 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	520 U	210 U	210 U
Transect Sample	RM678X3	678	4/13/05	0 to 0.5 (ft)	ug/kg	240 U	0.5 J	240 UJ	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	600 U	240 U	240 U
Transect Sample	RM678X4	678	4/13/05	0 to 0.5 (ft)	ug/kg	230 U	3 J	230 UJ	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	570 U	230 U	230 U
Transect Sample	RM678X5	678	4/13/05	0 to 0.5 (ft)	ug/kg	210 U	0.8 J	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	210 U	530 U	210 U	210 U
Transect Sample	RM678X6	678	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	7 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	350 U	140 U	140 U
Transect Sample	RM678X7	678	4/13/05	0 to 0.5 (ft)	ug/kg	93 U	5 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U
Transect Sample	RM679X1	679	4/12/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM679X2	679	4/12/05	0 to 0.5 (ft)	ug/kg	220 U	11 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	220 U	550 U	220 U	220 U
Transect Sample	RM679X3	679	4/12/05	0 to 0.5 (ft)	ug/kg	97 U	5 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	240 U	97 U	97 U
Transect Sample	RM680X2	680	4/12/05	0 to 0.5 (ft)	ug/kg	230 U	11 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	570 U	230 U	230 U
Transect Sample	RM681X1	681	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Transect Sample	RM683X1	683	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U
Transect Sample	RM683X2	683	4/11/05	0 to 0.5 (ft)	ug/kg	250 U	2 J	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	640 U	250 U	250 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Carbazole	Dibenzo-furan	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octylphthalate	Hexachloro-ethane	Iso-phorone	Nitro-benzene	N-Nitrosodi-n-propylamine	N-Nitroso-diphenylamine	Penta-chlorophenol	Hexachloro-cyclopentadiene	Phenol
Transect Sample	RM683X3	683	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM686X1	686	4/11/05	0 to 0.5 (ft)	ug/kg	88 U	4 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Transect Sample	RM686X2	686	4/11/05	0 to 0.5 (ft)	ug/kg	200 U	10 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U
Transect Sample	RM689X1	689	4/11/05	0 to 0.5 (ft)	ug/kg	91 U	5 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U
Transect Sample	RM689X2	689	4/11/05	0 to 0.5 (ft)	ug/kg	170 U	0.7 J	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	420 U	170 U	170 U
Transect Sample	RM692X2	692	4/9/05	0 to 0.5 (ft)	ug/kg	200 U	10 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U
Transect Sample	RM693X1	693	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Transect Sample	RM695X1	695	4/9/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect Sample	RM695X2	695	4/9/05	0 to 0.5 (ft)	ug/kg	180 U	0.7 J	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	450 U	180 U	180 U
Transect Sample	RM695X3	695	4/9/05	0 to 0.5 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Transect Sample	RM698X2	698	4/9/05	0 to 0.5 (ft)	ug/kg	170 U	9 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 U	440 U	170 U	170 U
Transect Sample	RM698X3	698	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM701X1	701	4/8/05	0 to 0.5 (ft)	ug/kg	95 U	5 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	95 U	240 U	95 U	95 U
Transect Sample	RM701X2	701	4/8/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM701X3	701	4/8/05	0 to 0.5 (ft)	ug/kg	85 U	4 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	85 U	220 U	85 U	85 U
Transect Sample	RM704X2	704	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	11 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM704X3	704	4/8/05	0 to 0.5 (ft)	ug/kg	110 U	0.2 J	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM705X1	705	4/7/05	0 to 0.5 (ft)	ug/kg	98 U	0.2 J	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U
Transect Sample	RM705X2	705	4/7/05	0 to 0.5 (ft)	ug/kg	120 U	12 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U
Transect Sample	RM705X3	705	4/7/05	0 to 0.5 (ft)	ug/kg	100 U	10 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect Sample	RM706X2	706	4/15/05	0 to 0.5 (ft)	ug/kg	150 U	8 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	380 U	150 U	150 U
Transect Sample	RM706X3	706	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM706X4	706	4/16/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM706X5	706	4/16/05	0 to 0.5 (ft)	ug/kg	160 U	8 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	410 U	160 U	160 U
Transect Sample	RM706X6	706	4/16/05	0 to 0.5 (ft)	ug/kg	240 U	12 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	240 U	610 U	240 U	240 U
Transect Sample	RM707X1	707	4/18/05	0 to 0.5 (ft)	ug/kg	98 U	0.4 J	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U
Transect Sample	RM707X2	707	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U
Transect Sample	RM707X3	707	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM708X1	708	4/16/05	0 to 0.5 (ft)	ug/kg	130 U	0.5 J	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U
Transect Sample	RM708X2	708	4/18/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM710X1	710	4/16/05	0 to 0.5 (ft)	ug/kg	120 U	0.5 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM710X2	710	4/15/05	0 to 0.5 (ft)	ug/kg	110 U	0.5 J	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U
Transect Sample	RM710X3	710	4/16/05	0 to 0.5 (ft)	ug/kg	98 U	5 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U
Transect Sample	RM713X1	713	4/15/05	0 to 0.5 (ft)	ug/kg	140 U	7 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U
Transect Sample	RM715X1	715	4/15/05	0 to 0.5 (ft)	ug/kg	130 U	7 U	130 U	130 U	130 U	130 U	83 U	130 U	130 U	130 U	83 U	330 U	130 U	130 U
Transect Sample	RM715X3	715	4/14/05	0 to 0.5 (ft)	ug/kg	93 U	5 U	93 UJ	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U
Transect Sample	RM718X1	718	4/14/05	0 to 0.5 (ft)	ug/kg	100 U	1 J	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect Sample	RM718X2	718	4/14/05	0 to 0.5 (ft)	ug/kg	130 U	7 U	130 UJ	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U
Transect Sample	RM718X3	718	4/14/05	0 to 0.5 (ft)	ug/kg	120 U	1 J	120 UJ	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM721X1	721	4/14/05	0 to 0.5 (ft)	ug/kg	88 U	0.4 J	88 UJ	88 U	88 U	88 U	88 U	88 U	88 U	88 U	88 U	220 U	88 U	88 U
Transect Sample	RM721X2	721	4/13/05	0 to 0.5 (ft)	ug/kg	98 U	5 U	98 UJ	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U
Transect Sample	RM721X3	721	4/14/05	0 to 0.5 (ft)	ug/kg	110 U	1 J	110 UJ	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM722X1	722	4/13/05	0 to 0.5 (ft)	ug/kg	140 U	1 J	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	360 U	140 U	140 U
Transect Sample	RM722X2	722	4/13/05	0 to 0.5 (ft)	ug/kg	98 U	5 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U
Transect Sample	RM722X3	722	4/13/05	0 to 0.5 (ft)	ug/kg	160 U	8 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	160 U	410 U	160 U	160 U
Transect Sample	RM723X4	723	4/12/05	0 to 0.5 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Transect Sample	RM723X5	723	4/12/05	0 to 0.5 (ft)	ug/kg	140 U	3 J	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	340 U	140 U	140 U
Transect Sample	RM724X2	724	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM725X1	725	4/11/05	0 to 0.5 (ft)	ug/kg	96 U	5 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U
Transect Sample	RM725X3	725	4/11/05	0 to 0.5 (ft)	ug/kg	98 U	5 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	98 U	250 U	98 U	98 U
Transect Sample	RM726X1	726	4/8/05	0 to 0.5 (ft)	ug/kg	130 U	7 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U
Transect Sample	RM726X2	726	4/9/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U
Transect Sample	RM726X3	726	4/9/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM727X3	727	4/8/05	0 to 0.5 (ft)	ug/kg	130 U	0.5 J	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U
Transect Sample	RM728X1	728	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	11 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM728X3	728	4/7/05	0 to 0.5 (ft)	ug/kg	110 U	11 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM729X2	729	4/18/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Carbazole	Dibenzo-furan	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octylphthalate	Hexachloro-ethane	Iso-phorone	Nitro-benzene	N-Nitrosodi-n-propylamine	N-Nitroso-diphenylamine	Penta-chlorophenol	Hexachloro-cyclopentadiene	Phenol
Transect Sample	RM729X3	729	4/18/05	0 to 0.5 (ft)	ug/kg	89 U	4 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	230 U	89 U	89 U
Transect Sample	RM730X1	730	4/18/05	0 to 0.5 (ft)	ug/kg	89 U	4 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	89 U	230 U	89 U	89 U
Transect Sample	RM731X1	731	4/18/05	0 to 0.5 (ft)	ug/kg	97 U	0.6 J	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	250 U	97 U	97 U
Transect Sample	RM731X3	731	4/16/05	0 to 0.5 (ft)	ug/kg	100 U	0.8 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect Sample	RM732X1	732	4/16/05	0 to 0.5 (ft)	ug/kg	91 U	5 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U
Transect Sample	RM732X2	732	4/16/05	0 to 0.5 (ft)	ug/kg	86 U	4 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	86 U	220 U	86 U	86 U
Transect Sample	RM732X3	732	4/16/05	0 to 0.5 (ft)	ug/kg	97 U	5 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	240 U	97 U	97 U
Transect Sample	RM733X2	733	4/15/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM733X3	733	4/15/05	0 to 0.5 (ft)	ug/kg	91 U	0.4 J	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	230 U	91 U	91 U
Transect Sample	RM734X3	734	4/15/05	0 to 0.5 (ft)	ug/kg	87 U	4 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	87 U	220 U	87 U	87 U
Transect Sample	RM735X1	735	4/14/05	0 to 0.5 (ft)	ug/kg	93 U	5 U	93 UJ	93 U	93 U	93 U	93 U	93 U	93 U	93 U	93 U	240 U	93 U	93 U
Transect Sample	RM735X3	735	4/14/05	0 to 0.5 (ft)	ug/kg	100 U	1 J	100 UJ	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect Sample	RM736X3	736	4/13/05	0 to 0.5 (ft)	ug/kg	96 U	5 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U
Transect Sample	RM737X1	737	4/12/05	0 to 0.5 (ft)	ug/kg	100 U	0.2 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect Sample	RM737X2	737	4/12/05	0 to 0.5 (ft)	ug/kg	97 U	5 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	97 U	240 U	97 U	97 U
Transect Sample	RM738X1	738	4/11/05	0 to 0.5 (ft)	ug/kg	120 U	1 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect Sample	RM739X1	739	4/11/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM740X3	740	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	0.4 J	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect Sample	RM741X1	741	4/9/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect Sample	RM744X2	744	4/8/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U
Transect/Bioassay/Porewater	RM603A1(X1)	603	4/28/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	270 U	100 U	100 U
Transect/Bioassay/Porewater	RM605A1(X1)	605	4/26/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect/Bioassay/Porewater	RM605A2(X8)	605	4/28/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM606A1(X3)	606	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect/Bioassay/Porewater	RM616A1(X3)	616	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect/Bioassay/Porewater	RM622A1(X3)	622	4/28/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	290 U	120 U	120 U
Transect/Bioassay/Porewater	RM628A1(X1)	628	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	5 UJ	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM634A1(X1)	634	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U
Transect/Bioassay/Porewater	RM637A1(X1)	637	4/26/05	0 to 0.5 (ft)	ug/kg	96 U	5 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	96 U	240 U	96 U	96 U
Transect/Bioassay/Porewater	RM640A1(X3)	640	4/26/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM641A1(X1)	641	4/26/05	0 to 0.5 (ft)	ug/kg	180 U	9 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	180 U	460 U	180 U	180 U
Transect/Bioassay/Porewater	RM642A1(X1)	642	4/26/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U
Transect/Bioassay/Porewater	RM644A1(X3)	644	4/26/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect/Bioassay/Porewater	RM658A1(X3)	658	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect/Bioassay/Porewater	RM661A1(X1)	661	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM676A1(X3)	676	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM677A1(X3)	677	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U
Transect/Bioassay/Porewater	RM678A1(X1)	678	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect/Bioassay/Porewater	RM680A1(X1)	680	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	280 U	110 U	110 U
Transect/Bioassay/Porewater	RM686A1(X3)	686	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U
Transect/Bioassay/Porewater	RM689A1(X3)	689	4/20/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 UJ	120 U	290 U	120 U	120 U
Transect/Bioassay/Porewater	RM692A1(X1)	692	4/20/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 UJ	100 U	250 U	100 U	100 U
Transect/Bioassay/Porewater	RM698A1(X1)	698	4/20/05	0 to 0.5 (ft)	ug/kg	170 U	2 J	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 UJ	170 U	420 U	170 U	170 U
Transect/Bioassay/Porewater	RM704A1(X1)	704	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	0.5 J	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 UJ	110 U	290 U	110 U	110 U
Transect/Bioassay/Porewater	RM706A1(X1)	706	4/20/05	0 to 0.5 (ft)	ug/kg	170 U	1 J	170 U	170 U	170 U	170 U	170 U	170 U	170 U	170 UJ	170 U	430 U	170 U	170 U
Transect/Bioassay/Porewater	RM706A2(X7)	706	4/20/05	0 to 0.5 (ft)	ug/kg	190 U	9 U	190 U	190 U	190 U	190 U	190 U	190 U	190 U	190 UJ	190 U	480 U	190 U	190 U
Transect/Bioassay/Porewater	RM708A1(X3)	708	4/21/05	0 to 0.5 (ft)	ug/kg	150 U	8 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	150 U	370 U	150 U	150 U
Transect/Bioassay/Porewater	RM713A1(X3)	713	4/23/05	0 to 0.5 (ft)	ug/kg	130 U	7 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	340 UJ	130 UJ	130 U
Transect/Bioassay/Porewater	RM723A1(X1)	723	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM723A2(X3)	723	4/22/05	0 to 0.5 (ft)	ug/kg	140 U	0.9 J	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	140 U	350 U	140 U	140 U
Transect/Bioassay/Porewater	RM724A1(X1)	724	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	0.7 J	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect/Bioassay/Porewater	RM724A2(X3)	724	4/22/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	310 U	120 U	120 U
Transect/Bioassay/Porewater	RM727A1(X1)	727	4/23/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	310 UJ	120 U	120 U
Transect/Bioassay/Porewater	RM729A1(X1)	729	4/23/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	250 U	100 U	100 U
Transect/Bioassay/Porewater	RM733A1(X1)	733	4/23/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	290 U	110 U	110 U
Transect/Bioassay/Porewater	RM736A1(X1)	736	4/22/05	0 to 0.5 (ft)	ug/kg	130 U	0.8 J	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	330 U	130 U	130 U

Table B-9. Concentrations of SVOCs in Sediments Collected by EPA in 2005 (USEPA 2006a)

Sample Type	Sample ID	River Mile	Sample Date	Sample Depth	Units	Carbazole	Dibenzo-furan	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octylphthalate	Hexachloro-ethane	Iso-phorone	Nitro-benzene	N-Nitrosodi-n-propylamine	N-Nitroso-diphenylamine	Penta-chlorophenol	Hexachloro-cyclopentadiene	Phenol
Transect/Bioassay/Porewater	RM737A1(X3)	737	4/22/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM738A1(X3)	738	4/22/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect/Bioassay/Porewater	RM739A1(X3)	739	4/22/05	0 to 0.5 (ft)	ug/kg	130 U	6 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	320 U	130 U	130 U
Transect/Bioassay/Porewater	RM740A1(X1)	740	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	0.2 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect/Bioassay/Porewater	RM741A1(X3)	741	4/21/05	0 to 0.5 (ft)	ug/kg	120 U	6 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	300 U	120 U	120 U
Transect/Bioassay/Porewater	RM742A1(X1)	742	4/21/05	0 to 0.5 (ft)	ug/kg	100 U	5 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	260 U	100 U	100 U
Transect/Bioassay/Porewater	RM742A2(X5)	742	4/21/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM743A1(X1)	743	4/21/05	0 to 0.5 (ft)	ug/kg	230 U	0.2 J	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	230 U	590 U	230 U	230 U
Transect/Bioassay/Porewater	RM743A2(X3)	743	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 UJ	110 U	290 U	110 U	110 U
Transect/Bioassay/Porewater	RM744A1(X1)	744	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	5 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 UJ	110 U	270 U	110 U	110 U
Transect/Bioassay/Porewater	RM744A2(X3)	744	4/20/05	0 to 0.5 (ft)	ug/kg	110 U	6 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 UJ	110 U	280 U	110 U	110 U

Notes:

*	Only primary samples are presented in this table - field duplicates were not included.
J	The analyte was positively identified. The associated numerical result is an estimate.
U	The compound was analyzed for, but was not detected.
UJ	The analyte was not detected, value is estimated.
UR	Non-detected value, data unusable. Rejected by CH2M HILL project validator. Samples with this code were not included in the SLERA.

Table B-10. Concentrations of Metals/Metalloids in Sediments Collected by EPA (USEPA 2003a)

Sample ID	Sample Type	Sample Date	Sample Depth (in)	Units	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium
CS004	Columbia River Sediment	5/17/01	0 to 4	mg/kg-dry	13700	1.5 J	7.7 U	230	0.69 J	3.6	5970	30.1	8.5 J	48.5 J	23400	219	6990
CS005	Columbia River Sediment	5/17/01	0 to 4	mg/kg-dry	12100	1.6 J	8.1 U	269	0.63 J	4	7670	29.8	8.1 J	41.6 J	22300	238	7720
CS006	Columbia River Sediment	5/17/01	0 to 4	mg/kg-dry	4430	0.76 UJ	2.2 U	42.2 J	0.21 J	0.12 J	4420	8.8	3.3 J	10.4 J	8630	6.2	3140
CS007	Columbia River Sediment	5/17/01	0 to 2	mg/kg-dry	4700	0.85 UJ	4 U	57.4	0.24 J	0.33 J	2510	15.7	3.6 J	11.8 J	14400	21.5	2760
CS008	Columbia River Sediment	5/17/01	0 to 4	mg/kg-dry	8240	0.97 J	5.1 U	105	0.42 J	0.73 J	13200	23.3	6.9 J	22.5 J	16600	24.4	5990
CS009	Columbia River Sediment	5/17/01	0 to 7	mg/kg-dry	7440	0.65 UJ	6.6	61.1	0.29 J	0.25 J	3350	20.4	6.7 J	21.9 J	16500	16.7	4860
CS010	Columbia River Sediment	5/17/01	0 to 0.5	mg/kg-dry	21200	0.63 UJ	5	227	0.84 J	4.4	4920	14	5.8 J	33.9 J	14300	86.6	3220
CS011	Columbia River Sediment	5/17/01	0 to 2	mg/kg-dry	14300	3.6 J	13.7	512	0.77 J	8.1	14100	35.7	9.4 J	91.7 J	28300	464	11200
CS012	Columbia River Sediment	5/18/01	0 to 3	mg/kg-dry	14300	3.3 J	14.9	596	0.78 J	9.4	15900	35.9	9.4 J	86.8 J	29600	535	12400
CS013	Columbia River Sediment	5/18/01	0 to 4	mg/kg-dry	12800	3.2 J	19	755	0.64 J	11.1	27000	25.9	7.4 J	73.4 J	26800	841	18100
CS014	Columbia River Sediment	5/21/01	0 to 4	mg/kg-dry	15400	4.1 J	12.3	468	0.83 J	7.5	12100	38	10 J	111 J	29400	440	10300
CS015	Columbia River Sediment	5/18/01	0 to 8	mg/kg-dry	9120	1.5 J	6.2	229	0.46 J	3.4	7040	21.1	5.9 J	49.2 J	16800	190	6130
CS016	Columbia River Sediment	5/18/01	0 to 1	mg/kg-dry	13600	1.5 J	8.5	261	0.71 J	3.8	7150	28.6	8.7 J	73 J	23800	162	7240
CS017	Columbia River Sediment	5/18/01	0 to 6	mg/kg-dry	9540	2.4 J	13.1	1030	0.53 J	8.6	34900	25.2	6.5 J	67.7 J	25900	439	21400
CS017	Columbia River Sediment	5/18/01	18 to 24	mg/kg-dry	15600	0.72 UJ	2.8	175	0.55 J	0.43 J	5560	9.4	4 J	15.6 J	11500	26.8	2970
CS018	Columbia River Sediment	5/19/01	0 to 6.5	mg/kg-dry	8180	1.7 J	7.8	422	0.43 J	4.9	12400	18.9	5.4 J	40.6 J	17400	232	8970
CS019	Columbia River Sediment	5/19/01	0 to 5	mg/kg-dry	11900	2.1 J	4.5 J	231	0.62 J	1.4 J	9340	20.4	7.4 J	41.8 J	20400	64.9	7000
CS020	Columbia River Sediment	5/19/01	0 to 4	mg/kg-dry	6670	5.4 J	6.8	180	0.39 J	1.8 J	7630	17	5.4 J	66.7 J	15500	72.7	5610
CS021	Columbia River Sediment	5/21/01	0 to 4	mg/kg-dry	12800	3.6 J	9.5	364	0.69 J	6.5	8230	33.1	9.2 J	88.2 J	25200	441	8200
CS022	Columbia River Sediment	5/21/01	0 to 4	mg/kg-dry	11600	3.4 J	10.3	240	0.6 J	5.9	7740	30.4	7.9 J	67.6 J	22400	282	7930
CS023	Columbia River Sediment	5/21/01	0 to 0.25	mg/kg-dry	10400	1 J	4.2	190	0.63 J	1.6	5470	25.7	8.2 J	53.9 J	18000	93.8	6150
CS024	Columbia River Sediment	6/8/01	18 to 24	mg/kg-dry	6810	1.6 UJ	5.8	147	0.29 J	0.1 U	162000	12.9	4.7 J	18.1 J	11700	6.7 J	5090
CS025	Columbia River Sediment	5/21/01	0 to 3	mg/kg-dry	9920	4.9 J	10.6	505	0.54 J	4.3	21200	25	7.9 J	120 J	27500	211	13800
CS026	Columbia River Sediment	5/21/01	0 to 3	mg/kg-dry	8000	4.8 J	9.5	375	0.44 J	2.9	16600	21.9	7.7 J	118 J	23000	159	11100
CS027	Columbia River Sediment	5/21/01	0 to 4	mg/kg-dry	9090	1.3 J	3.4 J	113	0.58 J	0.29 J	4800	21.1	6 J	25 J	16000	21.3	5190
CS028	Columbia River Sediment	5/21/01	0 to 2	mg/kg-dry	12400	3.9 J	9.7	370	0.67 J	2.8	16100	30.1	9.6 J	114 J	29000	149	11900
CS029	Columbia River Sediment	5/21/01	0 to 2	mg/kg-dry	7150	1.9 J	7	342	0.37 J	3.2	11500	17.7	5 J	65.7 J	15900	208	7940
CS030	Columbia River Sediment	5/21/01	0 to 1	mg/kg-dry	11200	4.7 J	11.1	624	0.62 J	7.2	20500	30.6	9 J	205 J	26800	369	14200
CS031	Columbia River Sediment	5/21/01	0 to 2	mg/kg-dry	6940	21.5 J	11.5	533	0.38 J	4.3	26300	29.9	10.7 J	387 J	36300	256	11800
CS032	Columbia River Sediment	5/22/01	0 to 1	mg/kg-dry	9410	4.7 J	8.7	295	0.54 J	3.5	15400	26.4	8.6 J	150 J	24700	165	10200
CS033	Columbia River Sediment	5/22/01	0 to 5	mg/kg-dry	9240	7 J	13	618	0.51 J	6.9	26100	29.4	9 J	251 J	28900	392	15300
CS034	Columbia River Sediment	5/22/01	0 to 1	mg/kg-dry	8720	5.7 J	10.7	391	0.49 J	3.6	19600	25.8	8.6 J	156 J	25500	190	12800
CS035	Columbia River Sediment	5/22/01	0 to 0.25	mg/kg-dry	8540	2.2 J	7.9	255	0.45 J	2.3	10800	23.4	7.3 J	76.8 J	19800	112	8570
CS036	Columbia River Sediment	5/22/01	0 to 2	mg/kg-dry	8790	10.8 J	10.4	438	0.39 J	2.8	22300	28.1	10.6	309 J	42300	209	10300
CS037	Columbia River Sediment	5/22/01	0 to 2	mg/kg-dry	18900	17.2 J	26.9	1070	0.74 J	2.8	49600	59.1	22.3	1460 J	176000	1590	7230
CS038	Columbia River Sediment	5/23/01	0 to 3	mg/kg-dry	12400 J	10.4 J	17.3 J	603 J	0.53 J	2.1	28900 J	35.1 J	15.1 J	823	109000 J	784 J	5020 J
CS039	Columbia River Sediment	5/23/01	0 to 4	mg/kg-dry	4950 J	3.4 UJ	9.6 J	768 J	0.28 J	5.3	46900 J	12.5 J	4.1 J	102	25000 J	289 J	25000 J
CS040	Columbia River Sediment	5/23/01	0 to 2	mg/kg-dry	6520 J	19.2 J	9.1 J	452 J	0.34 J	1.9	24700 J	27.1 J	12 J	362	37600 J	172 J	9750 J
CS041	Columbia River Sediment	5/23/01	0 to 3	mg/kg-dry	6550 J	17.2 J	8.7 J	495 J	0.32 J	2.1	28200 J	32.8 J	13.7 J	451	48200 J	175 J	9960 J
CS042	Columbia River Sediment	5/23/01	0 to 2	mg/kg-dry	9280 J	20.7 J	13.9 J	632 J	0.43 J	1.6	26500 J	44.8 J	17.7 J	720	79700 J	446 J	5520 J
CS043	Columbia River Sediment	5/23/01	0 to 2	mg/kg-dry	15500 J	27.1 J	20.3 J	1140 J	0.69 J	1.6	46900 J	76.8 J	35.2 J	1550	137000 J	1040 J	5780 J
CS044	Columbia River Sediment	5/31/01	0 to 4	mg/kg-dry	21100	53.5	25.5	2160	0.99 J	0.06 U	69900	142	59	2900 J	239000	316	5770 J
CS045	Columbia River Sediment	5/31/01	0 to 3	mg/kg-dry	4710	9.9 J	7.6	486	0.27 J	4.8	54000	20.7	8.4 J	245 J	28000	199	26600 J
CS046	Columbia River Sediment	5/31/01	0 to 1	mg/kg-dry	17400	57.5	30.3	1970	0.86 J	0.07 U	57600	135	73.5	2520 J	176000	409	5040 J
CS047	Columbia River Sediment	5/31/01	0 to 1	mg/kg-dry	17800	45.2	21.6	1690	0.77 J	0.19 J	66400	112	47.3	2160 J	178000	417	10000 J
CS048	Columbia River Sediment	5/31/01	0 to 3	mg/kg-dry	18100	34.9	30.3	1660	0.75 J	0.06 U	58600	113	33.8	2160 J	179000	317	6030 J
CS049	Columbia River Sediment	6/1/01	0 to 2	mg/kg-dry	18700	7.4 J	7.6	681	0.71 J	0.06 U	46900	64	15	997 J	165000	282	5750 J
CS050	Columbia River Sediment	6/1/01	0 to 2	mg/kg-dry	8170	20	11.8	763	0.38 J	2.4	25300	30.2	7.9 J	444 J	67100	309	8540 J
CS051	Columbia River Sediment	6/1/01	0 to 4	mg/kg-dry	21100	61.3	42.8	2440	1 J	0.06 U	72400	165	85.7	3300 J	245000	512	5970 J
CS052	Columbia River Sediment	6/1/01	0 to 3	mg/kg-dry	11000	51.4	23.1	989	0.57 J	0.07 U	30800	72	33.4	1330 J	96900	276	3990 J

Table B-10. Concentrations of Metals/Metalloids in Sediments Collected by EPA (USEPA 2003a)

Sample ID	Sample Type	Sample Date	Sample Depth (in)	Manganese	Mercury	Nickel	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
CS004	Columbia River Sediment	5/17/01	0 to 4	719	0.66	24.6	1.3 U	1.7 J	345 J	1.5 U	36.9	523
CS005	Columbia River Sediment	5/17/01	0 to 4	533	0.49	24.1	1.2 U	1.6 J	359 J	1.4 U	36.2	600
CS006	Columbia River Sediment	5/17/01	0 to 4	181	0.06 U	9.6 J	0.87 U	0.48 J	197 J	0.99 U	17.3	36.8
CS007	Columbia River Sediment	5/17/01	0 to 2	267	0.07 U	10.5 J	0.96 U	0.71 J	200 J	1.1 U	27.7	77.9
CS008	Columbia River Sediment	5/17/01	0 to 4	376	0.08 U	21	1.1 U	0.94 J	289 J	1.3 U	32	99
CS009	Columbia River Sediment	5/17/01	0 to 7	250	0.05 U	21	0.74 U	0.85 J	231 J	0.85 U	27.9	90.9
CS010	Columbia River Sediment	5/17/01	0 to 0.5	347	0.14	14.4	0.72 U	0.76 J	287 J	0.82 U	26.7	230
CS011	Columbia River Sediment	5/17/01	0 to 2	808	1.7	27	1.5 U	2.7 J	406 J	1.7 U	39.9	1060
CS012	Columbia River Sediment	5/18/01	0 to 3	698	0.97	27.4	1.4 U	2.7 J	429 J	1.7 U	40.6	1210
CS013	Columbia River Sediment	5/18/01	0 to 4	515	1.6	21.9	0.83 U	1.9 J	301 J	0.95 U	38.5	1460
CS014	Columbia River Sediment	5/21/01	0 to 4	610	1	28.5	1.7 U	2.9 J	490 J	1.9 U	42.4	1000
CS015	Columbia River Sediment	5/18/01	0 to 8	294	0.54	16.5	0.76 U	1.4 J	249 J	0.87 U	25.8	470
CS016	Columbia River Sediment	5/18/01	0 to 1	572	0.31	24	0.84 J	1.7 J	248 J	0.8 U	37.2	462
CS017	Columbia River Sediment	5/18/01	0 to 6	420	0.93	22.7	0.86 U	1.8 J	276 J	0.98 U	33.9	1180
CS017	Columbia River Sediment	5/18/01	18 to 24	315	0.06 U	9.2 J	0.82 U	0.32 J	381 J	0.94 U	19.2	84.2
CS018	Columbia River Sediment	5/19/01	0 to 6.5	337	0.43	16.6	0.77 U	0.78 J	242 J	0.89 U	24.2	581
CS019	Columbia River Sediment	5/19/01	0 to 5	392	0.14 U	18.7 J	1.9 U	0.75 J	480 J	2.2 U	26.7 J	250
CS020	Columbia River Sediment	5/19/01	0 to 4	303	0.13 U	13.6 J	1.9 U	1.1 J	426 J	2.2 U	20.2 J	455
CS021	Columbia River Sediment	5/21/01	0 to 4	673	1.2	25.9	1.5 U	2 J	471 J	1.8 U	35.8	901
CS022	Columbia River Sediment	5/21/01	0 to 4	392	0.9	23.2 J	2 U	1.5 J	623 J	2.3 U	33.7	617
CS023	Columbia River Sediment	5/21/01	0 to 0.25	392	0.25	23	0.68 U	0.98 J	186 J	0.78 U	32.1	280
CS024	Columbia River Sediment	6/8/01	18 to 24	327	0.08 U	14.3	1.2 U	0.32 U	337 U	1.3 U	16.6 J	42.3
CS025	Columbia River Sediment	5/21/01	0 to 3	528	0.49	21.4	1.8 U	2 J	483 J	2.1 U	30.5	855
CS026	Columbia River Sediment	5/21/01	0 to 3	411	0.2	18	1.2 U	1.8 J	354 J	1.4 U	25.6	940
CS027	Columbia River Sediment	5/21/01	0 to 4	284	0.09 U	16.2	1.3 U	0.52 J	385 J	1.5 U	29	104
CS028	Columbia River Sediment	5/21/01	0 to 2	589	0.17 J	24.8	1.6 U	1.7 J	397 J	1.9 U	36.7	787
CS029	Columbia River Sediment	5/21/01	0 to 2	256	0.53	14.1	0.68 U	1.5 J	200 J	0.78 U	21.4	600
CS030	Columbia River Sediment	5/21/01	0 to 1	388	1.1	23.1	1.1	3.1	258 J	0.8 U	33.1	1250
CS031	Columbia River Sediment	5/21/01	0 to 2	661	0.4	16	1.6 J	3.4	374 J	1.6 J	23.6	2560
CS032	Columbia River Sediment	5/22/01	0 to 1	481	0.19	21.1	0.97 J	2.1 J	266 J	0.84 U	29.4	1030
CS033	Columbia River Sediment	5/22/01	0 to 5	435	0.73	20.9	1.2	3.2	269 J	0.92 U	30.2	1660
CS034	Columbia River Sediment	5/22/01	0 to 1	545	0.32	19.8	0.69 U	2.2	207 J	0.79 U	28.6	1100
CS035	Columbia River Sediment	5/22/01	0 to 0.25	467	0.16	19.1	0.68 U	1.2 J	237 J	0.78 U	28.3	592
CS036	Columbia River Sediment	5/22/01	0 to 2	946	0.16	15	1.4	2.1	384 J	0.81 J	27.1	3090
CS037	Columbia River Sediment	5/22/01	0 to 2	3390	0.07 J	10.3	0.68 U	4	1310	4	39	24900
CS038	Columbia River Sediment	5/23/01	0 to 3	2090 J	0.13	8.5	4.2	2.9	723 J	2.4	29.5 J	13900
CS039	Columbia River Sediment	5/23/01	0 to 4	442 J	0.29	10.9	0.82 J	0.63 J	228 J	1.1 J	23 J	1990
CS040	Columbia River Sediment	5/23/01	0 to 2	743 J	0.08 J	11.1	1.8	2.1	377 J	1.2 J	21.5 J	2770
CS041	Columbia River Sediment	5/23/01	0 to 3	908 J	0.07 J	10.2	2.1	2.2	475 J	0.78 U	21.4 J	3760
CS042	Columbia River Sediment	5/23/01	0 to 2	1500 J	0.13	9.6	3.2	3.9	666 J	2.3	26.2 J	8710
CS043	Columbia River Sediment	5/23/01	0 to 2	3060 J	0.06 J	12.2	4.5	5.7	1660	4.6	39.2 J	15000
CS044	Columbia River Sediment	5/31/01	0 to 4	4040	0.05 U	17	0.68 UJ	7.5	2210	0.78 U	42.3	20100
CS045	Columbia River Sediment	5/31/01	0 to 3	585	0.06 J	10.4	0.67 UJ	1.6 J	269 J	0.77 U	22.1	2430
CS046	Columbia River Sediment	5/31/01	0 to 1	3680	0.06 U	15.6	1.4 J	10.2	2230	0.87 U	39.1	17500
CS047	Columbia River Sediment	5/31/01	0 to 1	3240	0.05 U	14.4	0.68 UJ	7.4	1610	0.78 U	37.7	18200
CS048	Columbia River Sediment	5/31/01	0 to 3	3130	0.05 U	13	1.4 J	5.9	1530	0.76 U	36.3	16500
CS049	Columbia River Sediment	6/1/01	0 to 2	2950	0.05 U	8.1 J	2.1 J	3.7	1050	0.79 U	38.2	15400
CS050	Columbia River Sediment	6/1/01	0 to 2	1080	0.29	12.5	1.4 J	2.7	385 J	0.91 U	28.8	4900
CS051	Columbia River Sediment	6/1/01	0 to 4	4360	0.05 U	19.4	0.68 UJ	12.6	2630	0.78 U	45	22300
CS052	Columbia River Sediment	6/1/01	0 to 3	1990	0.06 U	13.6	1.5 J	8.5	1000 J	0.89 U	28.6	8820

Notes:

J The analyte was positively identified. The associated numerical result is an estimate.

U The compound was analyzed for, but was not detected.

UJ The analyte was not detected at or above the reported estimated reporting limit.

"-" No Data.

Table B-11. Concentrations of Pesticides and PCBs in Sediments Collected by EPA (USEPA 2003a)

					Pesticides*																			
Sample ID	Sample Type	Sample Date	Sample Depth (in)	TOC	4,4'-DDD	4,4'-DDE	4,4'-DDT	Total DDx (1/2 DL)[1]	Total DDx (Full DL)[1]	Aldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Total Chlordane (1/2 DL)[1]	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone
CS004	Columbia River Sediment	5/17/01	0 to 4	8060	5.4 U	5.4 U	5.4 U	2.7	5.4	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	1.4	5.4 U	2.8 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U
CS005	Columbia River Sediment	5/17/01	0 to 4	8900	5.4 U	5.4 U	5.4 U	2.7	5.4	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	1.4	5.4 U	2.8 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U
CS006	Columbia River Sediment	5/17/01	0 to 4	1420	3.9 U	3.9 U	3.9 U	1.95	3.9	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1	3.9 U	2 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
CS007	Columbia River Sediment	5/17/01	0 to 2	2040	4.9 U	4.9 U	4.9 U	2.45	4.9	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	1.25	4.9 U	2.5 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
CS008	Columbia River Sediment	5/17/01	0 to 4	9250	5 U	5 U	5 U	2.5	5	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	1.3	5 U	2.6 U	5 U	5 U	5 U	5 U	5 U
CS009	Columbia River Sediment	5/17/01	0 to 7	1000 U	3.6 U	3.6 U	3.6 U	1.8	3.6	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	0.95	3.6 U	1.9 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
CS010	Columbia River Sediment	5/17/01	0 to 0.5	29400	3.6 U	3.6 U	3.6 U	1.8	3.6	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.6 U	1.8 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
CS011	Columbia River Sediment	5/17/01	0 to 2	17200	6.2 U	6.2 U	6.2 U	3.1	6.2	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	1.6	6.2 U	3.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
CS012	Columbia River Sediment	5/18/01	0 to 3	13400	6.2 U	6.2 U	6.2 U	3.1	6.2	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	1.6	6.2 U	3.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
CS013	Columbia River Sediment	5/18/01	0 to 4	11900	4.1 U	4.1 U	4.1 U	2.05	4.1	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.05	4.1 U	2.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
CS014	Columbia River Sediment	5/21/01	0 to 4	22600	7.2 U	7.2 U	7.2 U	3.6	7.2	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	1.85	7.2 U	3.7 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
CS015	Columbia River Sediment	5/18/01	0 to 8	8630	3.8 U	3.8 U	3.8 U	1.9	3.8	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1	3.8 U	2 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
CS016	Columbia River Sediment	5/18/01	0 to 1	23100	3.5 U	3.5 U	3.5 U	1.75	3.5	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.5 U	1.8 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
CS017	Columbia River Sediment	5/18/01	0 to 6	16600	4.2 U	4.2 U	4.2 U	2.1	4.2	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	1.1	4.2 U	2.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U
CS017	Columbia River Sediment	5/18/01	18 to 24	10400	4.1 U	4.1 U	4.1 U	2.05	4.1	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.05	4.1 U	2.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
CS018	Columbia River Sediment	5/19/01	0 to 6.5	10700	3.8 U	3.8 U	3.8 U	1.9	3.8	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	0.95	3.8 U	1.9 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
CS019	Columbia River Sediment	5/19/01	0 to 5	21500	7.8 U	7.8 U	7.8 U	3.9	7.8	4 U	4 U	4 U	4 U	4 U	4 U	4 U	2	7.8 U	4 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U
CS020	Columbia River Sediment	5/19/01	0 to 4	26400	8.2 U	8.2 U	8.2 U	4.1	8.2	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	2.1	8.2 U	4.2 U	8.2 U	8.2 U	8.2 U	8.2 U	8.2 U
CS021	Columbia River Sediment	5/21/01	0 to 4	12600	6.7 U	6.7 U	6.7 U	3.35	6.7	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	1.75	6.7 U	3.5 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U
CS022	Columbia River Sediment	5/21/01	0 to 4	10200	8.7 U	8.7 U	8.7 U	4.35	8.7	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	4.5 U	2.25	8.7 U	4.5 U	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U
CS023	Columbia River Sediment	5/21/01	0 to 0.25	15500	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS024	Columbia River Sediment	6/8/01	18 to 24	15800	5 U	5 U	5 U	2.5	5	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	1.3	5 U	2.6 U	5 U	5 U	5 U	5 U	5 U
CS025	Columbia River Sediment	5/21/01	0 to 3	24600	7.8 U	7.8 U	7.8 U	3.9	7.8	4 U	4 U	4 U	4 U	4 U	4 U	4 U	2	7.8 U	4 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U
CS026	Columbia River Sediment	5/21/01	0 to 3	13700	5.4 U	5.4 U	5.4 U	2.7	5.4	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	1.4	5.4 U	2.8 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U
CS027	Columbia River Sediment	5/21/01	0 to 4	18100	5.5 U	5.5 U	5.5 U	2.75	5.5	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	1.4	5.5 U	2.8 U	5.5 U	5.5 U	5.5 U	5.5 U	5.5 U
CS028	Columbia River Sediment	5/21/01	0 to 2	21200	7.2 U	7.2 U	7.2 U	3.6	7.2	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	1.85	7.2 U	3.7 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
CS029	Columbia River Sediment	5/21/01	0 to 2	11900	3.4 U	3.4 U	3.4 U	1.7	3.4	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.4 U	1.7 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS030	Columbia River Sediment	5/21/01	0 to 1	27800	3.4 U	3.4 U	3.4 U	1.7	3.4	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.4 U	1.8 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS031	Columbia River Sediment	5/21/01	0 to 2	9170	5.2 U	5.2 U	5.2 U	2.6	5.2	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	1.35	5.2 U	2.7 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
CS032	Columbia River Sediment	5/22/01	0 to 1	29300	3.6 U	3.6 U	3.6 U	1.8	3.6	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.6 U	1.8 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
CS033	Columbia River Sediment	5/22/01	0 to 5	20900	4 U	4 U	4 U	2	4	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.05	4 U	2.1 U	4 U	4 U	4 U	4 U	4 U
CS034	Columbia River Sediment	5/22/01	0 to 1	18700	3.5 U	3.5 U	3.5 U	1.75	3.5	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.5 U	1.8 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
CS035	Columbia River Sediment	5/22/01	0 to 0.25	15800	3.4 U	3.4 U	3.4 U	1.7	3.4	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.4 U	1.7 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS036	Columbia River Sediment	5/22/01	0 to 2	9450	3.4 U	3.4 U	3.4 U	1.7	3.4	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.4 U	1.8 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS037	Columbia River Sediment	5/22/01	0 to 2	1380	3.4 U	3.4 U	3.4 U	1.7	3.4	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.4 U	1.7 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS038	Columbia River Sediment	5/23/01	0 to 3	1680	3.4 U	3.4 U	3.4 U	1.7	3.4	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.4 U	1.7 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS039	Columbia River Sediment	5/23/01	0 to 4	4830	3.5 U	3.5 U	3.5 U	1.75	3.5	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.5 U	1.8 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
CS040	Columbia River Sediment	5/23/01	0 to 2	5510	3.4 U	3.4 U	3.4 U	1.7	3.4	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.4 U	1.7 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS041	Columbia River Sediment	5/23/01	0 to 3	3460	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS042	Columbia River Sediment	5/23/01	0 to 2	1950	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS043	Columbia River Sediment	5/23/01	0 to 2	1000 U	3.4 U	3.4 U	3.4 U	1.7	3.4	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.4 U	1.7 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS044	Columbia River Sediment	5/31/01	0 to 4	1000 U	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS045	Columbia River Sediment	5/31/01	0 to 3	5250	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS046	Columbia River Sediment	5/31/01	0 to 1	1210	3.6 U	3.6 U	3.6 U	1.8	3.6	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	0.95	3.6 U	1.9 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
CS047	Columbia River Sediment	5/31/01	0 to 1	2160	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS048	Columbia River Sediment	5/31/01	0 to 3	1000 U	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS049	Columbia River Sediment	6/1/01	0 to 2	1000 U	3.4 U	3.4 U	3.4 U	1.7	3.4	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.9	3.4 U	1.8 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U
CS050	Columbia River Sediment	6/1/01	0 to 2	8720	3.9 U	3.9 U	3.9 U	1.95	3.9	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1	3.9 U	2 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
CS051	Columbia River Sediment	6/1/01	0 to 4	1000 U	3.3 U	3.3 U	3.3 U	1.65	3.3	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85	3.3 U	1.7 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
CS052	Columbia River Sediment	6/1/01	0 to 3	3130	3.8 U	3.8 U	3.8 U	1.9	3.8	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	0.95	3.8 U	1.9 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U

Table B-11. Concentrations of Pesticides and PCBs in Sediments Collected by EPA (USEPA 2003a)

				Pesticides*				Polychlorinated Biphenyls*							
Sample ID	Sample Type	Sample Date	Sample Depth (in)	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (1/2 DL)
CS004	Columbia River Sediment	5/17/01	0 to 4	2.8 U	2.8 U	28 U	280 U	54 U	110 U	54 U	54 U	54 U	54 U	54 U	55
CS005	Columbia River Sediment	5/17/01	0 to 4	2.8 U	2.8 U	28 U	280 U	54 U	110 U	54 U	54 U	54 U	54 U	54 U	55
CS006	Columbia River Sediment	5/17/01	0 to 4	2 U	2 U	20 U	200 U	39 U	80 U	39 U	39 U	39 U	39 U	39 U	40
CS007	Columbia River Sediment	5/17/01	0 to 2	2.5 U	2.5 U	25 U	250 U	49 U	100 U	49 U	49 U	49 U	49 U	49 U	50
CS008	Columbia River Sediment	5/17/01	0 to 4	2.6 U	2.6 U	26 U	260 U	50 U	100 U	50 U	50 U	50 U	50 U	50 U	50
CS009	Columbia River Sediment	5/17/01	0 to 7	1.9 U	1.9 U	19 U	190 U	36 U	73 U	36 U	36 U	36 U	36 U	36 U	36.5
CS010	Columbia River Sediment	5/17/01	0 to 0.5	1.8 U	1.8 U	18 U	180 U	36 U	72 U	36 U	36 U	36 U	36 U	36 U	36
CS011	Columbia River Sediment	5/17/01	0 to 2	3.2 U	3.2 U	32 U	320 U	62 U	130 U	62 U	62 U	62 U	62 U	62 U	65
CS012	Columbia River Sediment	5/18/01	0 to 3	3.2 U	3.2 U	32 U	320 U	62 U	130 U	62 U	62 U	62 U	38 J	17 J	244
CS013	Columbia River Sediment	5/18/01	0 to 4	2.1 U	2.1 U	21 U	210 U	41 U	84 U	41 U	41 U	41 U	41 U	41 U	42
CS014	Columbia River Sediment	5/21/01	0 to 4	3.7 U	3.7 U	37 U	370 U	72 U	140 U	72 U	72 U	72 U	72 U	72 U	70
CS015	Columbia River Sediment	5/18/01	0 to 8	2 U	2 U	20 U	200 U	38 U	77 U	38 U	38 U	38 U	38 U	38 U	38.5
CS016	Columbia River Sediment	5/18/01	0 to 1	1.8 U	1.8 U	18 U	180 U	35 U	71 U	35 U	35 U	35 U	35 U	35 U	35.5
CS017	Columbia River Sediment	5/18/01	0 to 6	2.2 U	2.2 U	22 U	220 U	42 U	85 U	42 U	42 U	42 U	42 U	42 U	42.5
CS017	Columbia River Sediment	5/18/01	18 to 24	2.1 U	2.1 U	21 U	210 U	41 U	83 U	41 U	41 U	41 U	41 U	41 U	41.5
CS018	Columbia River Sediment	5/19/01	0 to 6.5	1.9 U	1.9 U	19 U	190 U	38 U	76 U	38 U	38 U	38 U	38 U	38 U	38
CS019	Columbia River Sediment	5/19/01	0 to 5	4 U	4 U	40 U	400 U	78 U	160 U	78 U	78 U	78 U	78 U	78 U	80
CS020	Columbia River Sediment	5/19/01	0 to 4	4.2 U	4.2 U	42 U	420 U	82 U	170 U	82 U	82 U	82 U	82 U	82 U	85
CS021	Columbia River Sediment	5/21/01	0 to 4	3.5 U	3.5 U	35 U	350 U	67 U	140 U	67 U	67 U	67 U	67 U	67 U	70
CS022	Columbia River Sediment	5/21/01	0 to 4	4.5 U	4.5 U	45 U	450 U	87 U	180 U	87 U	87 U	87 U	87 U	87 U	90
CS023	Columbia River Sediment	5/21/01	0 to 0.25	1.7 U	1.7 U	17 U	170 U	33 U	68 U	33 U	33 U	33 U	33 U	33 U	34
CS024	Columbia River Sediment	6/8/01	18 to 24	2.6 U	2.6 U	26 U	260 U	50 U	100 U	50 U	50 U	50 U	50 U	50 U	50
CS025	Columbia River Sediment	5/21/01	0 to 3	4 U	4 U	40 U	400 U	78 U	160 U	78 U	78 U	78 U	78 U	78 U	80
CS026	Columbia River Sediment	5/21/01	0 to 3	2.8 U	2.8 U	52	280 U	54 U	110 U	54 U	54 U	54 U	54 U	54 U	55
CS027	Columbia River Sediment	5/21/01	0 to 4	2.8 U	2.8 U	28 U	280 U	55 U	110 U	55 U	55 U	55 U	55 U	55 U	55
CS028	Columbia River Sediment	5/21/01	0 to 2	3.7 U	3.7 U	37 U	370 U	72 U	140 U	72 U	72 U	72 U	72 U	72 U	70
CS029	Columbia River Sediment	5/21/01	0 to 2	1.7 U	1.7 U	17 U	170 U	34 U	68 U	34 U	34 U	34 U	34 U	34 U	34
CS030	Columbia River Sediment	5/21/01	0 to 1	1.8 U	1.8 U	18 U	180 U	34 U	70 U	34 U	34 U	34 U	34 U	34 U	35
CS031	Columbia River Sediment	5/21/01	0 to 2	2.7 U	2.7 U	27 U	270 U	52 U	110 U	52 U	52 U	52 U	52 U	52 U	55
CS032	Columbia River Sediment	5/22/01	0 to 1	1.8 U	1.8 U	18 U	180 U	36 U	73 U	36 U	36 U	36 U	36 U	36 U	36.5
CS033	Columbia River Sediment	5/22/01	0 to 5	2.1 U	2.1 U	21 U	210 U	40 U	82 U	40 U	40 U	40 U	40 U	40 U	41
CS034	Columbia River Sediment	5/22/01	0 to 1	1.8 U	1.8 U	18 U	180 U	35 U	71 U	35 U	35 U	35 U	35 U	35 U	35.5
CS035	Columbia River Sediment	5/22/01	0 to 0.25	1.7 U	1.7 U	17 U	170 U	34 U	68 U	34 U	34 U	34 U	34 U	34 U	34
CS036	Columbia River Sediment	5/22/01	0 to 2	1.8 U	1.8 U	18 U	180 U	34 U	70 U	34 U	34 U	34 U	34 U	34 U	35
CS037	Columbia River Sediment	5/22/01	0 to 2	1.7 U	1.7 U	17 U	170 U	34 U	68 U	34 U	34 U	34 U	34 U	34 U	34
CS038	Columbia River Sediment	5/23/01	0 to 3	1.7 U	1.7 U	17 U	170 U	34 U	68 U	34 U	34 U	34 U	34 U	34 U	34
CS039	Columbia River Sediment	5/23/01	0 to 4	1.8 U	1.8 U	18 U	180 U	35 U	70 U	35 U	35 U	35 U	35 U	35 U	35
CS040	Columbia River Sediment	5/23/01	0 to 2	1.7 U	1.7 U	17 U	170 U	34 U	68 U	34 U	34 U	34 U	34 U	34 U	34
CS041	Columbia River Sediment	5/23/01	0 to 3	1.7 U	1.7 U	17 U	170 U	33 U	68 U	33 U	33 U	33 U	33 U	33 U	34
CS042	Columbia River Sediment	5/23/01	0 to 2	1.7 U	1.7 U	17 U	170 U	33 U	67 U	33 U	33 U	33 U	33 U	33 U	33.5
CS043	Columbia River Sediment	5/23/01	0 to 2	1.7 U	1.7 U	17 U	170 U	34 U	68 U	34 U	34 U	34 U	34 U	34 U	34
CS044	Columbia River Sediment	5/31/01	0 to 4	1.7 U	1.7 U	17 U	170 U	33 U	67 U	33 U	33 U	33 U	33 U	33 U	33.5
CS045	Columbia River Sediment	5/31/01	0 to 3	1.7 U	1.7 U	17 U	170 U	33 U	67 U	33 U	33 U	33 U	33 U	33 U	33.5
CS046	Columbia River Sediment	5/31/01	0 to 1	1.9 U	1.9 U	19 U	190 U	36 U	74 U	36 U	36 U	36 U	36 U	36 U	37
CS047	Columbia River Sediment	5/31/01	0 to 1	1.7 U	1.7 U	17 U	170 U	33 U	68 U	33 U	33 U	33 U	33 U	33 U	34
CS048	Columbia River Sediment	5/31/01	0 to 3	1.7 U	1.7 U	17 U	170 U	33 U	68 U	33 U	33 U	33 U	33 U	33 U	34
CS049	Columbia River Sediment	6/1/01	0 to 2	1.8 U	1.8 U	18 U	180 U	34 U	70 U	34 U	34 U	34 U	34 U	34 U	35
CS050	Columbia River Sediment	6/1/01	0 to 2	2 U	2 U	20 U	200 U	39 U	80 U	39 U	39 U	39 U	39 U	39 U	40
CS051	Columbia River Sediment	6/1/01	0 to 4	1.7 U	1.7 U	17 U	170 U	33 U	67 U	33 U	33 U	33 U	33 U	33 U	33.5
CS052	Columbia River Sediment	6/1/01	0 to 3	1.9 U	1.9 U	19 U	190 U	38 U	76 U	38 U	38 U	38 U	38 U	38 U	38

Notes:

*	Units are in ug/kg-dry weight.
TOC	Total organic carbon (mg/kg-dry weight).
J	The analyte was positively identified. The associated numerical result is an estimate.
U	The compound was analyzed for, but was not detected.
UJ	The analyte was not detected at or above the reported estimated reporting limit.

Table B-12. Concentrations of Metals/Metalloids in Sediments Collected by Ecology (2001)

Sample Location **	Sample ID	Sample Depth (in)	TOC (%)	Metals/Metalloids (mg/kg-dry) Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
COLUMBIA RIVER @ GOODEVE CREEK	1198041	0 to 10	0.55	20	16.2	2210	344	0.0769	12200
COLUMBIA RIVER @ AUXILIARY GAGE	1198042	0 to 10	0.02 U	5	18	2210	324	0.016	16100
COLUMBIA RIVER NEAR INTL BOUNDARY	1198043	0 to 10	0.505	6.6	6.7	494	182	0.102	3730
KETTLE RIVER	1198044	0 to 5	1.1	2 U	0.96	15.6	4.6	0.0007 U	33.9
LAKE ROOSEVELT @ CASTLE ROCK	1198046	0 to 10	1.05	8.3	7.09	66.4	173	0.678	471
LAKE ROOSEVELT @ SWAWILLA BASIN	1198049	0 to 10	1.7	11	12.4	73.2	295	1.25	1040
LAKE ROOSEVELT @ WHITESTONE CREEK	1198047	0 to 10	1.6	13	11.9	73.7	285	1.25	952
LAKE ROOSEVELT BEHIND GRAND COULEE DAM	1198050	0 to 10	0.315	9.2	1.8	10.7	17	0.029	86.1
SANPOIL RIVER	1198045	0 to 10	2.15	3.5	1.9	19.5	19	0.029	69.9

Notes:

U Non-detected value, detection limit shown.

** Duplicate and reference samples not included in sediment screening evaluation.

Table B-13. Concentrations of Metals/Metalloids in Sediments Collected by Cox et al. (2005)

Sample ID	Depth interval (cm)	Cesium-137(pCi/g)	Units	Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Calcium	Carbonate (%)	Organic carbon (%)	Cerium	Cesium	Chromium	Cobalt	Copper	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Sediment Cores																								
CCR-624	0-3	0.15	mg/kg	74,000	2.4	12	840	2.2	0.53	2.2	13,000	0.02	1.4	100	6.4	64	16	49	18	46,000	58	90	38	12,000
CCR-624	3-6	-	mg/kg	73,000	3.1	10	820	2.3	0.54	2.1	13,000	0.03	1.4	110	6.4	62	16	70	19	42,000	65	110	39	12,000
CCR-624	9-12	0.38	mg/kg	76,000	5.2	14	940	2.5	0.67	7.6	11,000	0.03	1.6	110	7.1	91	17	74	19	45,000	110	240	42	13,000
CCR-624	12-15	0.46	mg/kg	75,000	3.3	14	950	2.4	0.7	12	11,000	0.04	1.6	100	7.2	94	16	67	19	43,000	100	280	42	13,000
CCR-624	18-21	-	mg/kg	74,000	4.5	14	960	2.3	0.69	10	15,000	0.26	1.2	100	6.9	74	15	47	18	40,000	76	300	41	15,000
CCR-624	21-24	0.73	mg/kg	73,000	4.9	17	1,100	2.3	0.74	11	17,000	0.36	1.2	120	6.7	74	15	51	18	39,000	91	400	40	16,000
CCR-624	27-30	1.6	mg/kg	78,000	5.2	22	1,000	2.1	0.82	16	18,000	0.39	1.6	110	6.5	75	18	60	18	44,000	100	540	40	13,000
CCR-624	30-33	0.62	mg/kg	70,000	4.4	13	760	1.9	0.56	8	16,000	0.12	1.6	84	5	50	14	43	17	40,000	57	320	34	11,000
CCR-624	33-35	0.38	mg/kg	69,000	3.3	13	740	1.8	0.49	5.4	16,000	0.1	1.6	86	4.6	46	15	37	17	40,000	53	250	30	10,000
CCR-624	36-39	-	mg/kg	77,000	9.8	9	880	2.3	1.5	18	17,000	-	-	-	6	64	17	66	20	48,000	49	600	37	12,000
CCR-624	39-42	-	mg/kg	80,000	6.9	11	990	2.5	1.9	23	16,000	-	-	-	7	80	18	88	20	46,000	58	920	42	14,000
CCR-624	42-45	-	mg/kg	94,000	5.6	21	920	2.6	1.4	18	14,000	0.13	1.8	80	7.6	93	21	86	22	55,000	55	680	45	14,000
CCR-624	45-48	-	mg/kg	81,000	2.9	18	840	2.5	1.1	15	12,000	0.06	1.8	76	7	67	19	66	19	48,000	50	450	39	15,000
CCR-643	0-3	0.19	mg/kg	74,000	3.2	13	1,100	2.3	0.59	2.3	11,000	0.05	1.2	120	6.5	83	16	58	17	41,000	74	94	40	14,000
CCR-643	3-6	-	mg/kg	72,000	4	11	1,100	2.2	0.62	2.6	11,000	0.07	1.2	110	6.6	80	15	76	17	39,000	74	130	39	14,000
CCR-643	9-12	-	mg/kg	69,000	4.6	15	1,000	2.3	0.66	7.7	11,000	0.06	1.3	120	6.3	110	15	76	17	39,000	120	310	37	14,000
CCR-643	15-18	0.58	mg/kg	71,000	3.3	16	1,100	2.2	0.68	7.9	12,000	0.1	1.1	130	6.3	100	15	60	17	38,000	120	280	39	14,000
CCR-643	21-24	-	mg/kg	71,000	4.5	23	1,100	2.1	0.86	10	20,000	0.54	0.98	120	5.9	85	14	50	17	36,000	96	400	36	16,000
CCR-643	27-30	0.15	mg/kg	83,000	2.8	16	940	2.5	0.85	2.8	20,000	0.48	0.64	120	9.3	86	16	41	20	43,000	67	96	46	15,000
CCR-643	33-36	0.11	mg/kg	78,000	2.5	14	870	2.6	0.82	2.4	19,000	0.47	0.61	120	9.2	75	16	39	19	41,000	64	78	46	15,000
CCR-643	36-39	0.1	mg/kg	74,000	2.4	14	870	2.3	0.8	2.4	20,000	0.5	0.56	130	8.8	72	15	38	18	39,000	73	79	43	15,000
CCR-643	39-42	-	mg/kg	67,000	2.7	16	870	2.1	0.72	4	20,000	0.49	0.67	130	7.1	67	13	37	17	35,000	83	190	37	14,000
CCR-643	42-45	0.61	mg/kg	70,000	3.7	18	1,000	2.1	0.87	7.1	18,000	0.38	0.75	120	5.5	74	13	44	16	34,000	89	380	33	13,000
CCR-643	48-51	1.2	mg/kg	65,000	3.1	16	1,200	2.2	0.57	8	18,000	0.36	1.9	100	4.9	68	12	42	15	31,000	88	380	30	13,000
CCR-643	54-57	0.98	mg/kg	78,000	7.4	24	1,200	2.1	0.97	18	22,000	0.68	1.1	110	6.6	93	15	73	18	41,000	122	920	41	17,000
CCR-668	0-5	0.16	mg/kg	74,000	2.9	8.3	1,100	2.5	0.44	2.2	20,000	0.23	1.1	92	4.2	69	14	54	17	38,000	53	86	30	16,000
CCR-668	5-10	-	mg/kg	73,000	1.9	6.6	1,100	2.3	0.3	1.7	22,000	0.25	0.86	92	3.4	76	12	38	16	34,000	52	67	26	15,000
CCR-668	10-15	-	mg/kg	73,000	4.4	8.8	1,100	2.6	0.47	3.3	18,000	0.25	1.8	84	4.5	76	13	92	17	39,000	50	150	31	16,000
CCR-668	20-25	-	mg/kg	73,000	6.4	11	1,200	2.5	0.67	5.6	17,000	0.12	1.4	93	4.6	100	15	100	17	41,000	71	290	32	16,000
CCR-668	30-35	0.42	mg/kg	75,000	5.3	12	1,200	2.8	0.82	11	17,000	0.16	1.5	98	5	110	15	89	18	42,000	75	410	34	17,000
CCR-668	40-45	-	mg/kg	74,000	4.3	13	1,200	2.8	0.75	11	23,000	0.47	1.1	94	4.8	96	13	62	18	40,000	67	340	33	20,000
CCR-668	45-50	0.46	mg/kg	68,000	5.7	17	1,400	2.5	0.79	12	34,000	1.1	1.6	81	4.4	84	13	72	16	42,000	57	480	32	27,000
CCR-668	60-65	0.23	mg/kg	59,000	4.1	12	1,600	2	0.38	8.8	44,000	1.5	0.72	76	2.5	57	8.9	52	13	35,000	49	310	20	26,000
CCR-668	65-70	0.77	mg/kg	69,000	6.2	16	1,500	2.7	0.81	16	33,000	1.1	1.3	88	4.7	80	13	70	16	42,000	64	580	33	27,000
CCR-668	80-85	0.31	mg/kg	55,000	6.6	12	1,800	2	0.89	11	57,000	2.1	1.2	69	2.8	67	9.5	72	13	36,000	51	620	23	32,000
CCR-668	90-95	0.38	mg/kg	55,000	7.1	13	1,700	2	0.88	12	54,000	2	1.2	68	2.9	66	9.7	75	13	37,000	50	660	23	30,000
CCR-668	100-105	0.34	mg/kg	55,000	6	14	1,700	2.1	0.92	11	54,000	2	1.3	69	2.8	65	9.8	73	13	38,000	49	560	23	32,000
CCR-668	105-110	0.28	mg/kg	53,000	3.3	7.3	1,500	1.9	0.7	6.8	52,000	1.9	0.79	61	2.3	56	8.6	52	13	31,000	40	330	20	26,000
CCR-668	120-125	0.54	mg/kg	71,000	4.8	13	1,500	2.5	0.56	9.3	33,000	0.89	0.61	90	4	87	13	53	17	38,000	63	460	30	23,000
CCR-668	130-135	0.76	mg/kg	70,000	9.4	20	1,500	2.4	0.74	14	33,000	0.96	0.65	92	4.3	72	14	63	16	38,000	64	800	31	24,000
CCR-668	140-145	0.43	mg/kg	44,000	9.9	12	820	1.6	0.36	7.4	19,000	0.67	0.59	54	2.4	39	7.6	33	10	22,000	36	440	18	13,000
CCR-668	150-155	<0.01	mg/kg	72,000	2.4	9.7	1,100	2.5	0.51	4.6	25,000	0.42	0.38	98	3.6	78	12	43	16	34,000	60	360	27	17,000
CCR-668	155-160	0.02	mg/kg	72,000	2.2	13	1,100	2.5	0.47	5.1	25,000	0.37	0.38	97	3.7	77	14	42	17	36,000	60	320	28	16,000
CCR-668	160-164	0.01	mg/kg	64,000	1.6	7.1	990	2.2	0.43	4.2	24,000	0.44	0.32	89	3.2	71	13	37	15	33,000	51	250	24	15,000
CCR-692	0-2	0.46	mg/kg	63,000	5.7	9.2	1,200	2.3	0.8	3.7	21,000	0.42	2.8	100	5	66	12	87	15	37,000	75	170	32	16,000
CCR-692	2-4	-	mg/kg	61,000	5.5	10	1,200	2.1	0.57	3.5	28,000	0.8	2.4	100	4.2	64	12	94	15	35,000	70	190	30	18,000
CCR-692	6-8	0.21	mg/kg	49,000	6.1	5.6	1,400	1.8	0.19	3.6	51,000	2	0.6	84	1.8	44	7.2	82	12	25,000	53	210	17	26,000
CCR-692	10-12	0.11	mg/kg	59,000	10	7.2	1,400	1.9	0.24	2.9	34,000	0.91	0.6	100	1.9	56	8.8	130	14	29,000	68	150	18	16,000
CCR-692	14-16	0.22	mg/kg	60,000	9.9	7.6	1,300	2	0.27	3	30,000	0.74	0.8	88	2.8	58	9.9	140	14	30,000	66	170	21	15,000
CCR-692	18-20	0.3	mg/kg	62,000	12	11	1,200	2.4	0.64	4.8	24,000	0.44	2.6	120	4.4	74	14	190	15	39,000	94	260	31	16,000
CCR-692	22-24	0.32	mg/kg	61,000	18	15	1,200	2.4	0.6	5.8	22,000	0.29	4	110	4.5	79	15	240	15	40,000	95	290	32	14,000
CCR-692	26-28	0.88	mg/kg	64,000	15	17	1,200	2.2	0.7	8.4	20,000	0.22	2.8	110	4.7	92	13	250	16	39,000	130	420	34	13,000
CCR-692	30-32	-	mg/kg	63,000	17	18	1,200	2.4	0.86	11	18,000	0.2	2.8	110	5.4	110	12	220	16	40,000	160	610	36	14,000
CCR-692	32-34	0.46	mg/kg	64,000	10	14	1,200	2.3	0.73	12	18,000	0.21	2.6	130	4.9	99	12	160	16	39,000	150	540	33	14,000
CCR-692	34-36	-	mg/kg	63,000	8	12	1,200	2.2	0.61	10	22,000	0.38	2.1	110	4.2	81	11	140	15	38,000	110	440	30	15,000

Table B-13. Concentrations of Metals/Metalloids in Sediments Collected by Cox et al. (2005)

Sample ID	Depth interval (cm)	Cesium-137(pCi/g)	Units	Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Calcium	Carbonate (%)	Organic carbon (%)	Cerium	Cesium	Chromium	Cobalt	Copper	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium
Sediment Cores (continued)																								
CCR-692	36-38	0.6	mg/kg	60,000	6.8	9.4	1,200	2.1	0.43	7.6	25,000	0.42	1.6	100	3.3	66	9.9	140	14	42,000	92	380	24	14,000
CCR-705	0-2	-	mg/kg	81,000	5.6	9.8	1,200	2.6	0.72	5.2	18,000	0.13	1.7	93	5.1	94.1	14	91	18	44,000	60	260	32	16,000
CCR-705	2-4	0.55	mg/kg	81,000	6.7	11	1,200	2.4	0.7	6.5	18,000	0.14	1.5	96	4.9	106	14	100	18	44,000	68	350	33	16,000
CCR-705	6-8	0.72	mg/kg	81,000	6.1	13	1,400	2.5	0.73	11	23,000	0.37	1.2	93	4.6	108	14	79	18	43,000	69	500	31	18,000
CCR-705	14-16	0.92	mg/kg	77,000	9.6	16	1,700	2.6	0.8	15	33,000	0.96	1.1	90	4.6	100	13	68	17	43,000	67	680	32	25,000
CCR-705	18-20	1.2	mg/kg	72,000	11	20	1,800	2.3	0.82	18	40,000	1.4	0.91	86	4.2	92.6	12	67	16	42,000	64	850	30	27,000
CCR-705	22-24	0.04	mg/kg	84,000	5.2	11	1,400	2.6	0.54	7.3	36,000	0.87	0.72	93	4.4	91.5	14	59	19	43,000	57	450	35	21000
CCR-705	26-28	0.03	mg/kg	75,000	1.9	5.4	1,100	2.2	0.3	2.8	31,000	0.7	0.68	90	3.8	79.6	13	37	18	37,000	51	200	31	17,000
CCR-705	30-32	<0.01	mg/kg	40,000	0.98	2.1	580	1.3	0.19	1.4	16,000	0.68	0.63	48	2	41.3	6.3	18	9.2	19,000	29	85	17	9,200
CCR-705	34-36	0.16	mg/kg	59,000	1.1	3.6	870	1.9	0.19	1.5	23,000	0.54	0.69	72	2.5	54.7	8.2	29	13	25,000	42	86	21	12,000
CCR-705	36-38	0.19	mg/kg	77,000	1.7	4.4	1,100	2.3	0.26	1.6	26,000	0.4	0.72	77	3.2	65.3	11	26	16	30,000	45	90	25	13,000
CCR-705	40-42	<0.01	mg/kg	76,000	6.1	18	1,100	2.6	1.3	16	23,000	0.47	2.3	86	4.8	89.7	12	74	18	34,000	65	850	34	19,800
CCR-705	42-44	0.02	mg/kg	54,000	3.5	15	760	1.8	0.88	10	14,000	0.2	4.9	75	4.5	56.2	9.8	52	12	22,000	61	500	28	11,000
CCR-705	44-46	<0.01	mg/kg	55,000	1.5	6.7	750	1.7	0.3	2.7	13,000	0.02	6.8	47	3.6	49.1	6.5	32	12	20,000	30	61	22	7,500
CCR-705	46-49	-	mg/kg	57,000	1.7	6.5	780	1.7	0.41	4.2	15,000	0.08	6.3	56	3.7	53.9	6.7	37	13	22,000	35	130	22	8,700
CCR-705	RSS-743	-	mg/kg	27,000	160	28	2,800	1.1	<0.005	0.004	99,000	-	-	47	0.78	250	88	3,600	35	320,000	25	400	18	8,300
CSA-8	0-3	0.17	mg/kg	84,000	2.6	20	770	2.8	1.1	7	9,800	0.06	2.4	82	9.2	64	17	44	20	50,000	41	140	45	13,000
CSA-8	3-6	-	mg/kg	78,000	1.9	18	730	2.6	1.1	5.7	12,000	0.11	1.9	77	7.8	55	15	40	19	43,000	40	88	39	13,000
CSA-8	6-9	-	mg/kg	85,000	2.6	20	760	2.7	1.1	7.8	9,200	0.04	2.4	77	8.8	63	16	48	21	50,000	41	140	45	12,000
CSA-8	9-12	0.32	mg/kg	76,000	8	24	790	2.4	0.81	10	8,900	0.04	2.4	69	8	64	16	53	20	45,000	36	130	42	12,000
CSA-8	15-18	0.25	mg/kg	81,000	2.4	20	710	2.7	1.2	14	11,000	0.05	1.9	76	7.5	58	16	46	20	42,000	40	110	40	12,000
CSA-8	21-24	0.29	mg/kg	74,000	2.3	19	700	2.6	0.94	13	13,000	0.07	1.6	76	6.6	49	13	34	18	37,000	40	92	34	12,000
CSA-8	27-30	0.36	mg/kg	74,000	2.8	17	700	2.5	0.95	21	12,000	0.05	1.8	75	6.7	51	14	38	18	39,000	40	110	35	12,000
CSA-8	33-36	0.33	mg/kg	74,000	3	13	700	2.5	1.2	18	13,000	0.05	1.7	80	6.7	51	14	34	18	38,000	42	100	34	12,000
CSA-8	39-42	0.2	mg/kg	70,000	2	11	660	2.2	0.96	8	15,000	0.09	1.3	76	5.8	42	12	29	16	34,000	40	72	30	11,000
CSA-8	45-48	0.24	mg/kg	70,000	2.1	13	660	2.2	1.9	8	15,000	0.09	1.4	82	6	46	12	31	16	35,000	43	74	30	11,000
CSA-8	51-54	0.24	mg/kg	71,000	2.1	12	680	2.2	1.2	7.6	15,000	0.09	1.5	82	6.2	35	12	31	16	35,000	43	69	32	11,000
CSA-8	57-60	0.33	mg/kg	72,000	2.4	13	690	2.5	1.5	14	13,000	0.06	1.7	74	6.4	48	13	36	17	36,000	39	86	34	11,000
CSA-8	63-66	1.1	mg/kg	83,000	5.7	34	740	2.7	1.3	14	10,200	0.03	2.2	80	7.7	60	18	51	20	46,000	43	140	41	11,000
CSA-8	69-72	0.36	mg/kg	73,000	3.2	20	740	2.4	2	7	11,000	0.03	1.2	80	7	50	13	38	17	37,000	43	210	34	11,000
CSA-8	75-78	0.34	mg/kg	72,000	2.7	16	710	2.3	2.2	18	12,000	0.06	1.6	81	6.5	51	14	36	18	38,000	43	100	34	12,000
CSA-8	78-81	-	mg/kg	74,000	2.2	10	650	2.1	0.84	9.5	15,000	0.07	1.5	75	6.1	54	13	31	17	36,000	38	87	32	9,700
CSA-8	81-84	0.31	mg/kg	72,000	2.2	12	690	2.6	1.8	8.8	15,000	0.07	1.5	78	6.4	48	12	32	17	36,000	41	79	33	12,000
CSA-8	86-90	-	mg/kg	78,000	2.8	13	700	2.3	1.4	10	14,000	0.06	1.7	73	6.6	49	13	36	18	38,000	38	83	33	12,000
Surface Sediment																								
CCR-668	1-2	-	mg/kg	76,000	3.9	7.2	1,100	2.6	0.53	2.5	15,000	-	-	87	5.2	83	15	69	18	41,000	51	110	33	14,000
CCR-668	9-11	-	mg/kg	75,000	6.2	9.2	1,100	2.3	0.54	4.1	16,000	-	-	87	4.8	91	15	110	17	40,000	60	210	32	14,000
CCR-692	1-2	-	mg/kg	70,000	4.2	5.2	1,200	2.5	0.46	3	21,000	-	-	83	4.1	68	20	75	16	37,000	50	130	28	15,000
CCR-692	9-11	-	mg/kg	66,000	7.2	7.7	1,500	2.2	0.46	4.6	36,000	-	-	72	4.1	73	12	130	15	38,000	47	250	28	21,000
CCR-705	1-2	-	mg/kg	76,000	5.3	7	1,200	2.5	0.61	5	17,000	-	-	88	4.9	92	14	91	17	42,000	57	230	33	14,000
CCR-705	9-11	-	mg/kg	74,000	7.2	10	1,300	2.6	0.64	9.2	20,000	-	-	92	4.5	110	13	100	17	39,000	74	430	32	16,000

Table B-13. Concentrations of Metals/Metalloids in Sediments Collected by Cox et al. (2005)

Sample ID	Depth interval (cm)	Manganese	Mercury	Molybdenum	Nickel	Niobium	Phosphorus	Potassium	Rubidium	Scandium	Selenium	Silver	Sodium	Strontium	Tantalum	Thallium	Thorium	Titanium	Uranium	Vanadium	Ytterbium	Yttrium	Zinc
Sediment Cores																							
CCR-624	0-3	1,100	0.16	0.88	36	18	1,200	19,000	110	15	0.34	<3	13,000	270	1.2	1	13	4,400	3.4	120	3.2	42	380
CCR-624	3-6	910	0.17	0.69	33	16	960	19,000	110	15	0.38	<3	13,000	260	1.2	1.3	13	4,400	3.1	110	3.2	38	390
CCR-624	9-12	1,100	1	1.1	41	20	1,200	20,000	120	16	0.77	<3	11,000	250	1.7	1.9	13	4,300	3.7	120	4.3	80	680
CCR-624	12-15	1,100	1.2	1.2	42	18	1,200	21,000	120	15	1.1	<3	11,000	250	1.4	1.7	13	4,200	3.8	110	4	78	860
CCR-624	18-21	940	0.58	1.7	36	18	1,100	21,000	120	14	0.63	<3	12,000	260	1.7	1.1	13	4,300	3.4	100	3.2	47	1,000
CCR-624	21-24	970	0.84	2.5	37	18	1,300	21,000	120	13	0.62	<3	12,000	280	1.8	1.1	14	4,200	3.8	100	3.3	54	1,100
CCR-624	27-30	1,300	1.1	4.5	40	18	1,600	20,000	110	15	0.62	<3	9,500	240	2.1	1.6	13	4,300	5.2	120	4.6	90	1,400
CCR-624	30-33	980	0.61	2.2	26	15	1,000	16,000	91	15	0.35	<3	13,000	260	0.65	1.2	11	4,500	3.2	110	3.6	50	730
CCR-624	33-35	960	0.47	2.1	25	17	940	16,000	86	14	0.24	<3	14,000	280	1.2	1	10	4,600	3	120	3.2	44	530
CCR-624	36-39	1,400	-	4.8	32	20	1,400	19,000	100	16	-	<3	11,000	230	-	1.2	13	4,800	4.3	130	-	56	1,100
CCR-624	39-42	1,500	-	4.6	39	22	1,400	22,000	120	16	-	<3	10,000	230	-	1.7	14	4,500	4.6	120	-	75	1,600
CCR-624	42-45	1,500	1.2	2.8	40	22	1,400	25,000	120	19	0.75	<3	9,400	210	1.2	1.5	14	4,800	4.1	130	4	60	1,400
CCR-624	45-48	1,200	1	1.5	33	24	1,100	22,000	110	16	0.69	<3	11,000	200	1.8	1.1	13	4,900	3	110	3.7	48	1,100
CCR-643	0-3	1,500	0.21	1.4	48	20	1,200	22,000	120	14	0.58	<3	12,000	290	1.3	1.1	14	4,200	3.4	110	2.7	32	330
CCR-643	3-6	1,000	0.28	1.4	44	19	1,100	22,000	120	13	0.54	<3	12,000	280	1.4	1.5	13	4,200	3.3	100	2.8	35	370
CCR-643	9-12	1,200	1.3	1.6	47	20	1,400	22,000	110	13	1	<3	12,000	280	1.4	1.7	14	4,200	3.7	100	3.9	75	590
CCR-643	15-18	990	1.3	1.8	45	19	1,400	22,000	120	13	0.84	<3	12,000	290	1.4	1.3	14	4,200	3.5	100	3.4	60	710
CCR-643	21-24	790	1	3.6	40	20	1,200	22,000	110	12	0.7	<3	12,000	300	1.6	1	13	4,200	3.7	98	3.1	52	1,100
CCR-643	27-30	850	0.14	1.6	41	18	990	26,000	140	16	0.35	<3	8,900	210	1.4	0.88	14	4,300	3.3	110	3	38	410
CCR-643	33-36	840	0.1	1.2	40	18	930	25,000	140	14	0.31	<3	9,200	210	1.3	0.83	14	4,200	3.1	100	3.1	40	360
CCR-643	36-39	840	0.1	1.2	38	21	960	24,000	140	14	0.38	<3	9,800	220	2.2	0.79	14	4,200	3.2	100	2.9	32	340
CCR-643	39-42	740	0.34	2	35	17	970	21,000	120	12	0.4	<3	12,000	260	1.7	0.85	14	4,200	3.4	90	3	38	470
CCR-643	42-45	760	0.86	3.3	37	18	1,200	22,000	110	12	0.49	<3	13,000	330	1.5	1.1	12	4,200	3.7	95	3	49	760
CCR-643	48-51	780	0.88	3.9	33	20	1,100	22,000	100	10	0.58	<3	15,000	380	1.1	1.1	12	4,200	4.3	88	3.1	60	770
CCR-643	54-57	1,100	1.8	9.6	44	19	1,600	23,000	120	14	0.76	<3	9,800	270	1.6	1.6	13	4,200	6.8	120	4.1	92	1,500
CCR-668	0-5	790	0.25	1	35	27	-	25,000	96	12	0.86	<3	21,000	420	1.5	0.94	14	4,300	3.1	100	2.4	25	320
CCR-668	5-10	630	0.17	1	32	31	1,200	25,000	91	11	0.62	<3	22,000	430	1.7	0.84	12	4,100	2.3	96	2.2	23	210
CCR-668	10-15	740	0.47	1.5	33	30	1,200	24,000	96	12	0.86	<3	20,000	380	1.6	1.1	12	4,200	3.5	100	2.7	29	530
CCR-668	20-25	740	1.2	1.6	37	35	1,600	25,000	98	13	1.3	5	19,000	390	2	1.8	13	3,800	3.7	110	3.8	50	550
CCR-668	30-35	660	2.1	1.8	38	30	1,600	25,000	100	13	1.8	<3	20,000	400	1.7	1.4	14	4,500	3.9	110	3.5	51	900
CCR-668	40-45	610	1.7	2	36	28	1,600	25,000	100	13	1.4	3	19,000	390	1.6	1	14	4,400	3.5	100	3.2	42	1,000
CCR-668	45-50	620	1.1	4.4	35	29	1,400	23,000	92	12	1.4	<3	19,000	380	1.6	1.1	12	4,000	4	100	3.1	36	1,200
CCR-668	60-65	570	0.61	4.1	25	23	1,300	21,000	75	8.6	0.74	<3	21,000	440	1.3	0.89	11	3,200	3.8	78	2.2	27	1,200
CCR-668	65-70	680	1.4	4.3	34	31	1,600	23,000	94	12	1.4	4	18,000	370	1.6	1.2	13	4,000	4.1	100	3.3	42	1,500
CCR-668	80-85	600	1.9	8.1	28	23	1,400	20,000	72	8.7	1.2	3	18,000	400	1.3	1	9.8	3,100	5	88	3	34	1,300
CCR-668	90-95	620	2.1	8.2	29	26	1,400	19,000	73	8.8	1.2	3	17,000	390	1.3	1.1	9.8	3,100	4.9	88	2.6	35	1,400
CCR-668	100-105	610	1.8	8.4	30	24	1,400	19,000	72	8.7	0.94	4	18,000	420	1.4	1	9.7	3,000	4.9	88	2.3	32	1,300
CCR-668	105-110	550	0.75	6.3	24	23	1,200	19,000	73	7.4	0.62	<3	17,000	450	1.2	1.1	8.7	2,800	4.5	77	1.9	23	1,100
CCR-668	120-125	700	1.1	4.6	36	29	1,600	25,000	95	12	0.97	<3	20,000	420	1.6	1	13	4,100	4.3	110	2.9	44	940
CCR-668	130-135	740	1.6	8.5	36	29	1,600	24,000	94	12	1.1	3	19,000	390	1.6	1.4	14	4,100	5.8	110	3.1	45	1,400
CCR-668	140-145	430	1.2	4	20	17	910	16,000	59	6.9	0.52	<3	13,000	270	1	0.66	7.8	2,400	2.9	64	1.8	22	700
CCR-668	150-155	650	1	2.4	32	29	1,300	26,000	93	11	0.69	<3	22,000	440	1.6	0.87	13	4,000	2.9	98	2.8	33	450
CCR-668	155-160	670	0.92	3.6	34	28	1,400	25,000	94	12	0.7	<3	22,000	430	1.6	0.85	13	4,400	2.8	100	3.3	35	500
CCR-668	160-164	650	0.77	1.9	31	26	1,200	23,000	83	11	0.53	3	20,000	400	1.4	0.74	12	3,800	2.4	92	2.1	25	380
CCR-692	0-2	770	0.55	2.2	35	21	1,400	19,000	97	11	0.86	<3	17,000	440	1.4	0.89	12	4,100	4.7	87	2.8	33	630
CCR-692	2-4	700	0.27	3.8	32	19	1,300	19,000	91	9.9	0.93	<3	17,000	470	1.2	0.92	12	4,100	5	83	2.4	30	730
CCR-692	6-8	530	0.19	7.6	20	16	1,200	17,000	72	6.3	0.54	<3	18,000	520	1.5	0.75	9.8	4,000	4.6	58	1.7	20	970
CCR-692	10-12	580	0.18	3.6	21	18	1,400	20,000	81	7.5	0.54	<3	20,000	600	1.2	0.95	9.9	4,000	3.5	65	2.1	27	960
CCR-692	14-16	600	0.24	3.3	23	17	1,200	20,000	86	7.8	0.69	<3	20,000	590	1	1.1	10	4,000	3.8	63	2	32	980
CCR-692	18-20	770	0.43	3	35	23	1,400	19,000	94	10	1.3	4	17,000	480	1.5	1.5	13	4,100	4.9	87	2.9	41	1,000
CCR-692	22-24	820	0.66	2.7	34	22	1,500	18,000	92	11	1.4	5	16,000	460	1.3	1.8	12	4,100	5.9	88	3	48	1,200
CCR-692	26-28	720	1.4	3	36	22	1,500	20,000	94	11	1.6	4	15,000	440	1.5	1.8	12	4,200	5.2	93	4	78	1,200
CCR-692	30-32	730	2.3	2.6	38	21	1,700	19,000	100	11	2.1	8	15,000	420	1.4	1.5	13	4,100	5.5	100	4.4	100	1,300
CCR-692	32-34	700	2	2.4	38	21	1,600	20,000	98	11	2.2	<3	16,000	450	1.3	1.5	13	4,100	5.1	89	3.8	78	1,300
CCR-692	34-36	670	1.9	3.4	34	20	1,500	20,000	95	9.9	1.8	<3	18,000	500	1.3	1.2	13	4,100	4.9	84	3	56	1,400

Table B-13. Concentrations of Metals/Metalloids in Sediments Collected by Cox et al. (2005)

Sample ID	Depth interval (cm)	Manganese	Mercury	Molybdenum	Nickel	Niobium	Phosphorus	Potassium	Rubidium	Scandium	Selenium	Silver	Sodium	Strontium	Tantalum	Thallium	Thorium	Titanium	Uranium	Vanadium	Ytterbium	Yttrium	Zinc
Sediment Cores (continued)																							
CCR-692	36-38	780	1.2	4.3	26	18	1,400	20,000	88	8.5	1.3	<3	19,000	520	1.2	0.86	27	4,100	6.8	80	2.6	43	2,200
CCR-705	0-2	1,000	0.93	1.6	37	36.1	1,600	27,000	110	13	1.1	5	18,000	430	1.9	1.3	14	4,200	3.6	110	2.9	35	560
CCR-705	2-4	860	1.2	1.6	37	35.9	1,700	27,000	100	13	1.2	4	19,000	440	1.8	1.4	14	4,100	3.7	110	3.2	46	640
CCR-705	6-8	700	2.2	2.8	37	34.9	1,800	28,000	100	13	1.5	<3	19,000	450	2.6	1.4	13	4,200	3.8	110	3.1	47	960
CCR-705	14-16	720	2	7.3	36	33.2	2,100	26,000	100	13	1.4	7	18,000	420	2	1.4	13	4,100	5.5	120	3.2	48	1,400
CCR-705	18-20	750	1.8	9.1	36	31.4	2,100	25,000	95	12	1.4	3	16,000	400	2	1.5	12	3,800	6.5	110	3.2	48	1,600
CCR-705	22-24	750	0.88	4	39	36.7	1,400	29,000	110	14	0.54	<3	20,000	500	2.1	1	14	4,400	3.4	120	2.6	32	740
CCR-705	26-28	690	0.47	1.7	34	33.7	1,200	27,000	99	12	0.55	<3	19,000	480	1.9	0.71	13	4,100	2.5	98	2.2	24	300
CCR-705	30-32	380	0.46	0.71	18	16	650	14,000	50	6.3	0.38	<3	11,000	260	1	0.38	7.4	2,100	1.4	51	1.2	13	150
CCR-705	34-36	540	0.29	0.86	22	24.8	970	21,000	72	8.8	0.34	<3	18,000	420	1.3	0.5	10	3,100	1.9	69	1.7	18	160
CCR-705	36-38	570	0.23	1.3	28	29	1,100	28,000	90	11	0.41	<3	22,000	530	1.5	0.74	11	3,800	2.3	90	2.2	22	170
CCR-705	40-42	530	2.8	7	35	32.7	1,600	26,000	110	13	1.4	<3	17,000	400	1.8	1.3	13	4,000	6	110	3.2	49	1,200
CCR-705	42-44	380	1.5	5.9	28	19.81	1,200	17,000	91	9	1.9	<3	12,000	310	1.3	0.81	11	4,000	9.5	72	2.6	36	770
CCR-705	44-46	310	0.14	2.2	19	19.2	1,100	18,000	79	8.6	2.4	<3	12,000	310	1.1	0.62	8.6	2,500	13	62	1.9	19	180
CCR-705	46-49	350	0.38	2.4	21	21.1	1,200	18,000	82	9.1	2.2	<3	12,000	310	1.2	0.69	9.4	2,700	14	67	2.3	21	300
CCR-705	RSS-743	5,400	-	54	26	5	570	4,800	20	6.2	-	9	2,900	430	-	0.02	7.3	3,600	6.2	50	-	23	25,000
CSA-8	0-3	1,600	0.1	0.75	28	23	1,300	22,000	120	17	0.65	<3	8,700	140	1.7	0.88	14	5,400	6.4	100	3.8	32	1,200
CSA-8	3-6	930	0.08	0.65	25	18	1,000	22,000	110	16	0.39	<3	11,000	170	1.1	0.76	13	5,300	5.7	98	3.4	29	950
CSA-8	6-9	1,200	0.11	0.8	30	23	1,400	22,000	120	18	0.82	<3	8,600	140	1.8	0.89	13	5,400	6	110	3.6	32	1,200
CSA-8	9-12	940	0.25	1.2	29	22	1,300	20,000	110	16	0.69	<3	8,300	130	1.8	0.81	12	4,900	6.4	97	3.1	28	1,600
CSA-8	15-18	860	0.15	0.86	26	21	1,100	21,000	110	15	0.74	<3	12,000	170	1.5	1	12	5,200	5.6	95	3.4	31	1,500
CSA-8	21-24	750	0.15	0.65	21	20	990	21,000	100	14	0.46	<3	15,000	210	1.3	0.84	11	5,100	4.4	86	3.6	28	1,200
CSA-8	27-30	840	0.19	0.66	23	19	1,200	21,000	100	14	0.68	<3	14,000	200	0.96	0.92	11	5,100	4.1	89	3.1	28	1,600
CSA-8	33-36	790	0.18	0.56	22	20	1,200	21,000	100	14	0.38	<3	15,000	210	1.3	0.83	12	5,300	4	88	3.2	28	1,400
CSA-8	39-42	670	0.09	0.55	18	19	980	21,000	94	13	0.4	<3	16,000	240	1.5	0.67	11	5,300	3.6	85	3.1	26	930
CSA-8	45-48	680	0.09	0.61	19	18	1,000	21,000	94	13	0.4	<3	16,000	230	1.2	0.64	12	5,200	3.5	86	3	26	960
CSA-8	51-54	640	0.09	0.71	19	19	970	21,000	96	13	0.64	<3	15,000	230	1.4	0.66	12	5,200	3.4	84	3	26	890
CSA-8	57-60	720	0.14	0.55	21	16	1,000	20,000	99	13	0.49	<3	14,000	210	1	0.73	11	5,100	3.6	85	3.1	26	1,300
CSA-8	63-66	980	0.3	0.86	28	20	1,300	21,000	120	17	0.52	<3	9,700	160	1.6	1	13	5,500	4.8	98	3.7	34	1,500
CSA-8	69-72	680	0.13	0.65	20	20	890	24,000	120	13	0.42	<3	12,000	210	1.4	0.76	12	4,600	3.3	85	2.9	26	980
CSA-8	75-78	820	0.19	0.64	22	18	1,200	22,000	100	14	0.42	<3	14,000	200	1	0.86	12	5,000	4.1	88	3.2	27	1,400
CSA-8	78-81	730	0.1	0.79	21	15	1,100	22,000	100	14	0.46	<3	12,000	220	0.61	0.66	11	4,300	3.2	89	2.6	25	1,100
CSA-8	81-84	690	0.1	0.65	20	15	1,000	21,000	99	13	0.32	<3	16,000	230	1	0.73	12	5,200	3.6	86	3.2	27	1,000
CSA-8	86-90	730	0.13	0.82	22	22	1,000	22,000	120	17	0.65	<3	15,000	220	1.5	0.73	11	5,200	3.3	88	3	27	1,100
Surface Sediment																							
CCR-668	1-2	1,100	-	1.4	39	30	1,400	23,000	100	13	-	1.5	16,000	-	1.6	0.97	14	3,600	3.8	100	-	26	430
CCR-668	9-11	1,000	-	2	38	30	1,500	23,000	98	13	-	2.7	16,000	-	1.7	1.7	14	3,600	4	100	-	39	540
CCR-692	1-2	620	-	1.4	30	29	1,600	22,000	88	11	-	1.1	18,000	-	1.5	0.91	12	3,300	3.9	90	-	25	540
CCR-692	9-11	550	-	4.4	30	26	1,500	21,000	85	11	-	2.6	16,000	-	1.4	1.2	11	3,000	5.3	91	-	27	960
CCR-705	1-2	860	-	1.4	37	34	1,700	24,000	100	13	-	2	16,000	-	1.8	1	14	3,500	3.9	110	-	33	650
CCR-705	9-11	700	-	3.8	37	33	1,700	24,000	99	13	-	0.16	17,000	-	1.9	1.4	14	3,500	4.4	110	-	50	980

Notes:

< Non-detected value, detection limit shown.

"-" No data.

Table B-14. Concentrations of Metals/Metalloids in Sediments Collected by Paulson et al. (2006)

Site	Sample ID	Sample Type	Aluminum [a]	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Calcium	Cerium	Cesium	Chromium	Cobalt	Copper	Gallium	Iron	Lanthanum	Lead	Lithium	Magnesium	Manganese
LR-1	LR-1	Composite	66100	0.8	9	799	2.4	0.29	0.25	13700	82	4.7	45.8	6.8	12.1	16	28000	46.3	15.9	27	9530	455
LR-1	PW-1B	0-2 cm spent PW	69200	1	9	793	2.5	0.28	0.32	11900	105	5.2	53.9	7.7	13.6	17	37000	51.7	17.6	27.8	10400	517
LR-1	PW-1C	0-2 cm spent PW	68500	1	10	803	2.4	0.26	0.33	11400	100	5	56	7.3	12.5	17	41000	51.6	16.7	27.9	9880	542
LR-2	LR-2	Composite	83800	4.2	22	1,060	2.9	0.81	6.8	11,300	98.4	7.6	101	18.8	84	22	51000	62.7	247	45	14,800	2210
LR-2	LR-2A	0-1 cm	83900	3	22	1,080	2.9	0.71	4	12,200	95.1	7.8	96.6	19.4	63.4	22	52000	52.6	116	43.9	15,700	3,780
LR-2	LR-2B	7-10 cm	85000	4	25	1,060	2.9	0.94	10.5	12,400	88.8	7.3	109	19.8	72.5	22	50000	67.2	374	43.2	14,400	1,180
LR-3	LR-3	Composite	76200	4.2	13	1,180	2.7	0.66	6.7	15,400	101	5.2	101	16.3	68.7	19	42000	68.9	413	33.6	13,200	1,510
LR-3	LR-3A	0-1 cm	72200	3.2	15	1,100	2.5	0.54	4.8	15,300	87.9	5	88.9	15.9	55.3	18	42000	59.2	205	31.8	13,100	3,200
LR-3	LR-3B	5-6 cm	79800	4.8	14	1,210	2.6	0.72	7.8	16,100	111	5.3	108	16.5	81.7	20	44000	75.1	480	35.1	14,000	1,050
LR-4	LR-4	Composite	69700	0.5	3	1,240	2.4	0.1	0.24	17,600	57.2	1.8	42.1	6.3	12.3	15	20000	33.2	17.9	15.9	7,920	445
LR-4	PW-4A	0-2 cm spent PW	70400	0.5	3	1,220	2.3	0.11	0.31	16,000	56	1.8	40.7	5.7	12.4	15	19000	33.2	20	15.4	7,760	470
LR-4	PW-4F	0-2 cm spent PW	68600	0.6	3	1,210	2.1	0.12	0.33	16,600	53.3	2.1	43.6	6.5	15	15	21000	30.9	20.4	16.3	8,360	492
LR-4A	TM-4AINC	0-2 cm spent tumbled core	79900	3.4	9	1,090	3	0.51	2.6	16,700	88.1	4.9	76.8	14.1	63.3	18	42000	50.2	112	42.1	14,800	1,110
LR-5	LR-5	Composite	60800	4.8	8	1,460	2.3	0.75	3.6	32,600	78.1	2.8	61.3	9.1	68.7	15	32000	49.9	212	21.3	18,000	560
LR-5	PW-5A	0-2 cm spent PW	60400	8	11	1,210	2.2	0.68	4.6	26,600	76.8	4.1	69.8	12.5	111	16	40000	48.1	190	27.5	16,800	729
LR-5	PW-5B	0-2 cm spent PW	54400	5.9	10	1,480	1.9	0.44	5.3	37,400	65.2	2.8	59.1	8.9	77.1	13	32000	42.9	276	21	22,200	536
LR-5	PW-5D	0-2 cm spent PW	61300	4.1	8	1,460	2.1	0.38	3	30,200	73.8	2.9	58.8	8.7	61.8	14	30000	47.2	180	20.8	17,800	510
LR-5A	TM-5AINC	0-2 cm spent tumbled core	66900	13.5	9	1,300	3	0.38	3.4	36,200	76.4	2.8	68.3	13.8	212	16	50000	44.6	167	30.2	18,400	904
LR-6	LR-6	Composite	53000	24	12	1,430	1.9	0.4	4.2	43,400	68.2	2	61.7	12.4	281	14	45000	41.8	205	17	19,700	844
LR-6	LR-6A	0-1 cm	60400	20.1	10	1,530	2.4	0.3	4.5	40,100	71.3	2.2	81.4	15	234	16	49000	42.8	170	19.3	19,500	880
LR-6	LR-6B	3-4 cm	58100	34.3	11	1,670	2.2	0.26	3.4	44,200	85.4	1.9	70.5	15.5	328	16	51000	51.9	159	17.3	20,600	1,030
LR-7	LR-7	Composite	43200	174	32	2,110	1.6	0.21	1.4	83,600	48.4	1.8	173	64.7	2660	26	220000	30.6	843	18.9	11,500	4,320
LR-7	LR-7R	Composite	43600	163	30	2,140	1.8	0.13	1.2	83,500	51	1.8	166	64.8	2600	26	220000	32.2	802	19.2	11,700	4,250
LR-7	PW-7E	0-2 cm spent PW	43500	145	30	1,980	1.5	0.13	1.5	84,400	47.6	2	146	62.1	2480	24	200000	30.2	926	18.5	13,100	3,850
LR-7	PW-7F	0-2 cm spent PW	44600	125	30	1,800	1.5	0.28	1.5	85,500	54.9	2.2	132	56	2300	22	190000	35.4	816	19.5	14,600	3,440
SA-8	SA-8	Composite	77800	1.7	10	1,030	2.4	0.34	0.38	18,800	81.2	5.1	75.2	12.5	24.6	19	35000	44.6	21.1	32.6	12,900	642
SA-8	SA-8A	0-1 cm	76700	1.2	9	956	2.4	0.42	0.63	16,100	83.2	6.2	79	13.5	29.2	20	39000	45.6	22.6	36.7	14,000	857
SA-8	SA-8B	5-7 cm	77300	1.1	7	983	2.5	0.35	0.41	18,200	87.3	5.5	82.6	12.8	27.8	20	37000	47	21.7	34.7	13,600	608
SA-8	1RM 743	0-1 cm	32400	323	46.8	3,100	1.4	0.3	<0.003	95,400	55.2	0.8	298	86.8	3790	33.5	32400	31.8	642	18.2	9,570	5,860

Table B-14. Concentrations of Metals/Metalloids in Sediments Collected by Paulson et al. (2006)

Site	Sample ID	Sample Type	Molybdenum	Nickel	Phosphorous	Potassium	Rubidium	Scandium	Silver	Sodium	Strontium	Thallium	Thorium	Titanium	Uranium	Vanadium	Yttrium	Zinc
LR-1	LR-1	Composite	0.31	14.1	570	25500	115	9.6	<3	14600	317	0.7	14.7	2500	3.8	70.4	18.7	75
LR-1	PW-1B	0-2 cm spent PW	0.33	16.3	680	27200	124	10.8	<3	14300	297	0.9	13.9	3100	2.4	85.5	20.9	109
LR-1	PW-1C	0-2 cm spent PW	0.32	15.2	580	27500	126	10.1	<3	14400	296	0.8	17.5	2800	2.9	93.5	19.1	96
LR-2	LR-2	Composite	1.1	45.3	1,500	24,700	127	16.3	<3	11,000	249	1.8	15.8	4300	5.2	121	45.8	806
LR-2	LR-2A	0-1 cm	1.6	50.1	1,500	25,800	130	16.5	<3	11,100	267	1.2	15.5	4500	5.3	125	30.3	580
LR-2	LR-2B	7-10 cm	1.3	44.4	1,200	24,800	126	16.4	<3	12,100	262	1.7	14.7	4500	5.2	120	51.6	1220
LR-3	LR-3	Composite	1.3	41.6	1,500	24,400	108	13.2	<3	16,400	400	1.8	13.8	3500	4.3	112	47	798
LR-3	LR-3A	0-1 cm	1.7	42	1,500	23,600	105	12.8	<3	15,100	386	1.4	13.8	3400	4.2	106	32.9	530
LR-3	LR-3B	5-6 cm	1.3	44.2	1,600	26,000	114	14	<3	16,700	411	2.2	15	3700	4.5	118	51.1	985
LR-4	LR-4	Composite	0.36	15.2	690	26,800	93	7	<3	23,500	601	0.6	8.9	2000	2.1	64.1	14.7	57
LR-4	PW-4A	0-2 cm spent PW	0.39	14.6	690	26,600	89	6.9	<3	23,700	586	0.6	8.5	1900	1.4	60.7	12.9	65
LR-4	PW-4F	0-2 cm spent PW	0.45	17.2	800	26,000	92	7.2	<3	22,300	567	0.6	8.3	2000	1.5	66.5	13.7	72
LR-4A	TM-4AINC	0-2 cm spent tumbled core	1.2	36.8	1,700	24,900	101	11.6	<3	17,000	399	0.9	13.9	3500	4.2	103	23.9	407
LR-5	LR-5	Composite	1.8	22.5	1,200	21,300	81	8.8	<3	18,500	486	0.9	10.9	2700	4	80.4	26	763
LR-5	PW-5A	0-2 cm spent PW	2.1	30	1,600	19,400	83	10.9	<3	15,000	376	0.8	12.7	2900	4.5	90	26.1	954
LR-5	PW-5B	0-2 cm spent PW	2.6	23.5	1,300	18,900	73	7.9	<3	15,600	408	0.9	9.1	2300	4.3	75.6	26.1	1020
LR-5	PW-5D	0-2 cm spent PW	1.9	21.8	1,200	21,300	80	8.9	<3	17,800	433	0.8	11.8	2400	3.7	77.5	23.4	663
LR-5A	TM-5AINC	0-2 cm spent tumbled core	4.4	24.2	1,600	22,000	78	8.3	<3	19,200	479	0.7	10.9	2800	4	79.7	21.4	2320
LR-6	LR-6	Composite	5.6	18.4	1,200	19,200	69	6.8	<3	17,200	482	0.6	10.3	2000	4.5	67.1	17.8	2760
LR-6	LR-6A	0-1 cm	4.8	22.7	1,400	21,300	76	8.3	<3	19,300	530	0.7	11.9	2700	5.8	80.4	20.5	2250
LR-6	LR-6B	3-4 cm	4.6	19.7	1,400	21,200	73	7.9	<3	18,400	523	0.7	17.8	2600	5.7	77.4	21.3	2760
LR-7	LR-7	Composite	35	17.7	940	14,500	59	8.4	5.4	10,100	476	0.2	6.7	2200	4.7	80.4	20.9	18200
LR-7	LR-7R	Composite	35	17	920	14,600	58	8.4	5.1	10,500	479	0.2	8	2200	4.8	80.1	21.2	18000
LR-7	PW-7E	0-2 cm spent PW	35	16.8	1,000	14,600	59	9	4.9	9,960	438	0.2	6.3	2300	4.3	90	21	16500
LR-7	PW-7F	0-2 cm spent PW	32	15.9	1,000	15,500	64	9.8	4.5	10,600	425	0.2	6.9	2500	4	101	21.8	14400
SA-8	SA-8	Composite	0.78	28	1,100	25,000	104	11.9	<3	17,300	492	0.7	10.9	3800	3.5	85.4	22.9	117
SA-8	SA-8A	0-1 cm	0.61	31.6	1,300	24,800	112	13.2	<3	14,500	401	0.8	11.8	4300	4	90	26	149
SA-8	SA-8B	5-7 cm	0.72	30.4	1,200	24,500	107	13	<3	16,300	479	0.8	11.2	4600	4.4	90.4	26.1	115
SA-8	1RM 743	0-1 cm	62	25.8	687	6,870	22.8	7	–	5,080	444	0.1	9.2	2530	6.4	77.1	22.2	23000

Notes:

[a] All units are in mg/kg-dry weight.

< Non-detected value, detection limit shown

"-" No data.

MAPS

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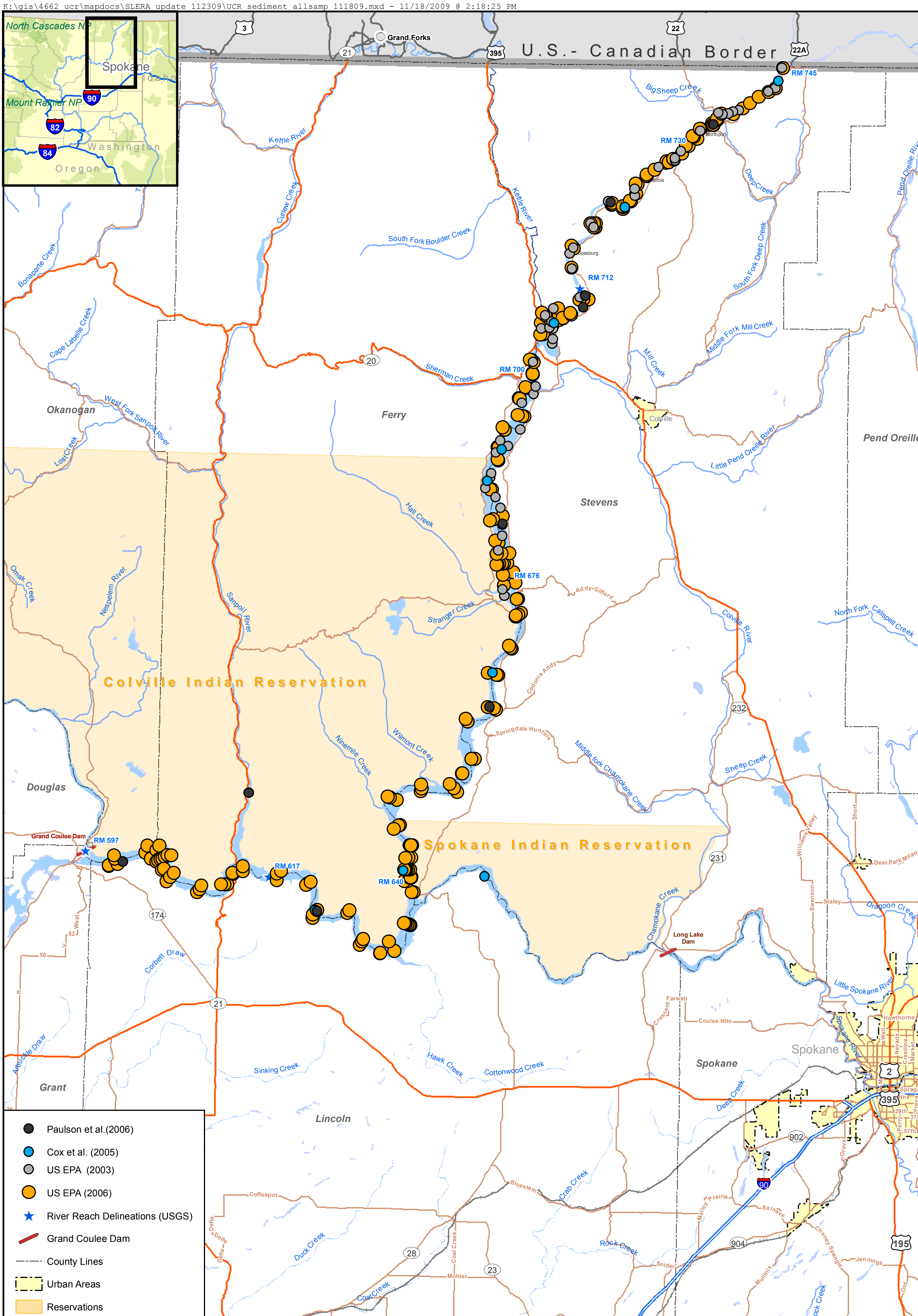

Parametrix **Integral**

0 5 10 Km

0 5 10 Miles

N

Map B-1. **Sediment Sampling Locations**

Upper Columbia River, WA

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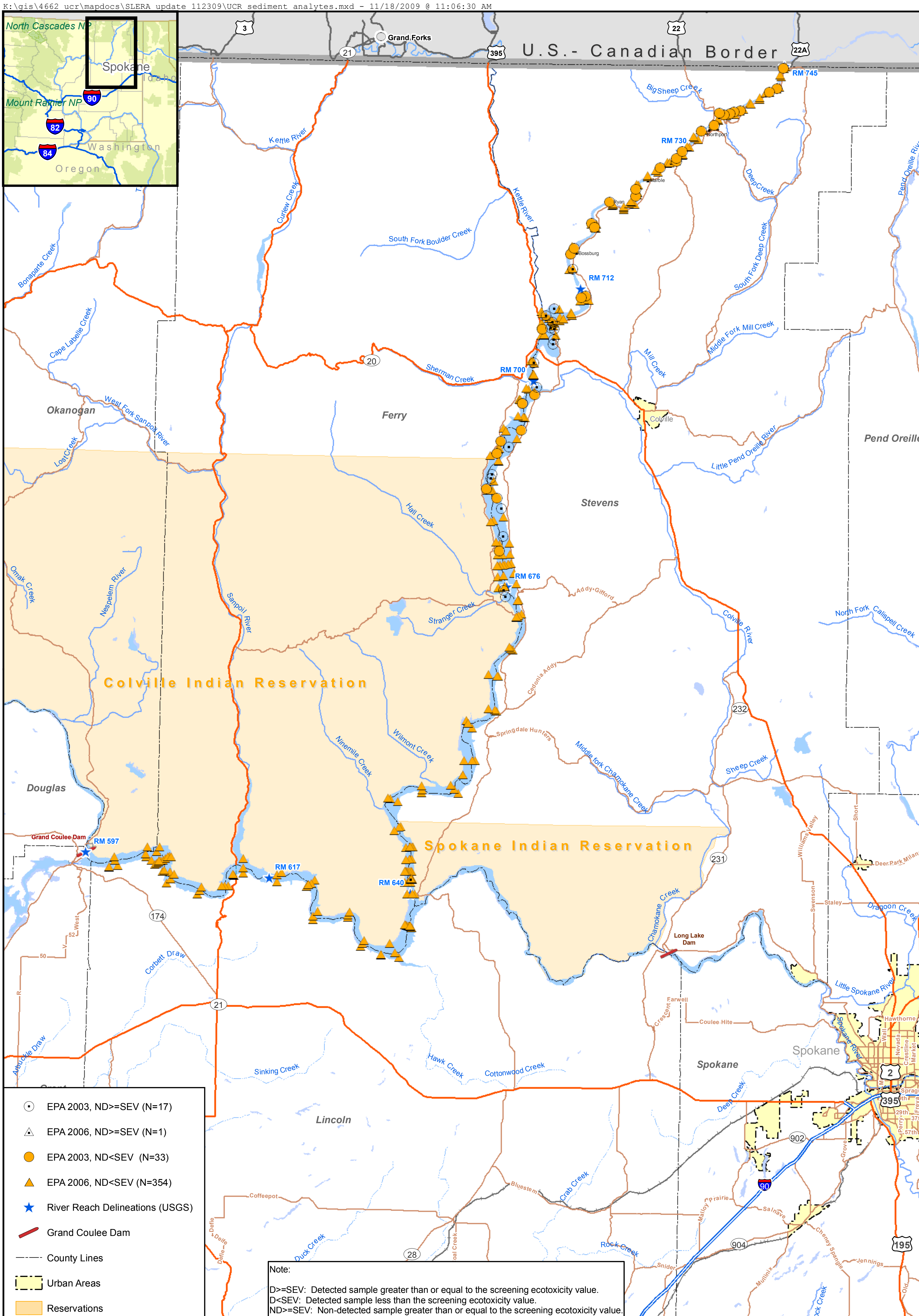

Parametrix Integral

Km
0 5 10

N

Map B-2. **Sediment Sampling Locations For Lindane**

Upper Columbia River, WA

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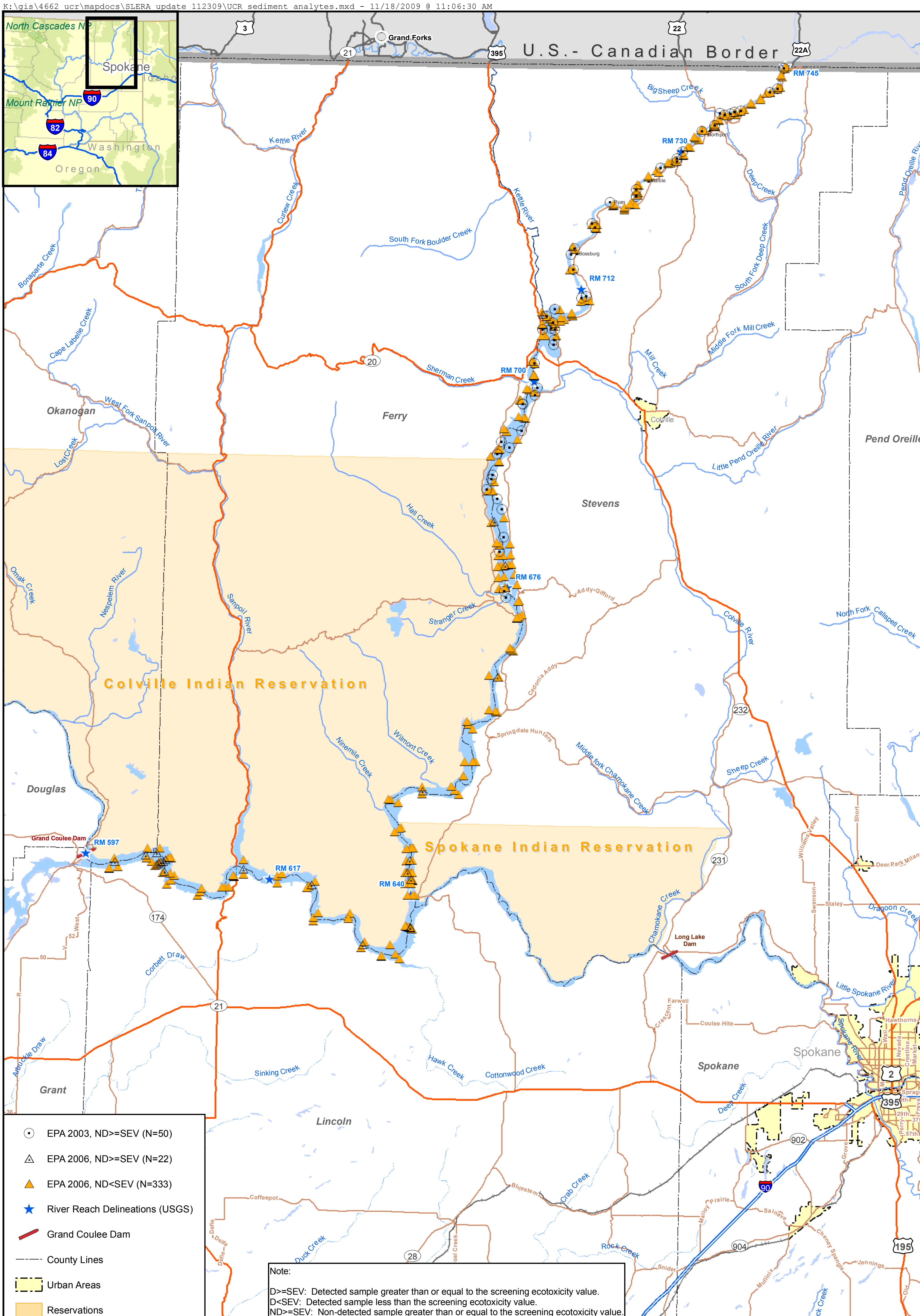

Parametrix **Integral**

Map B-3. **Sediment Sampling Locations For Dieldrin**

Upper Columbia River, WA

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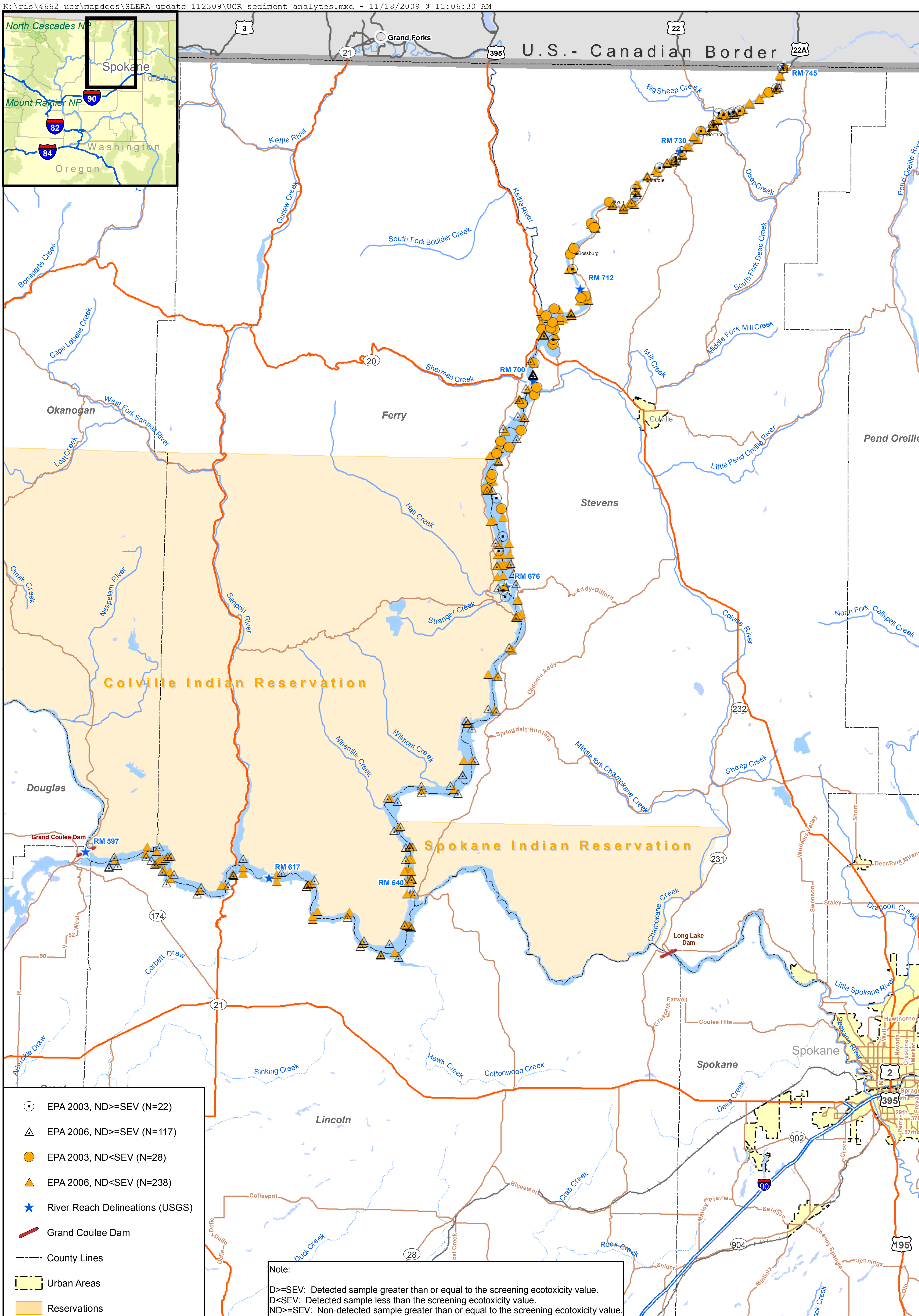

Parametrix Integral

Km
0 5 10

N

Map B-4. **Sediment Sampling Locations For Endosulfan I**

Upper Columbia River, WA

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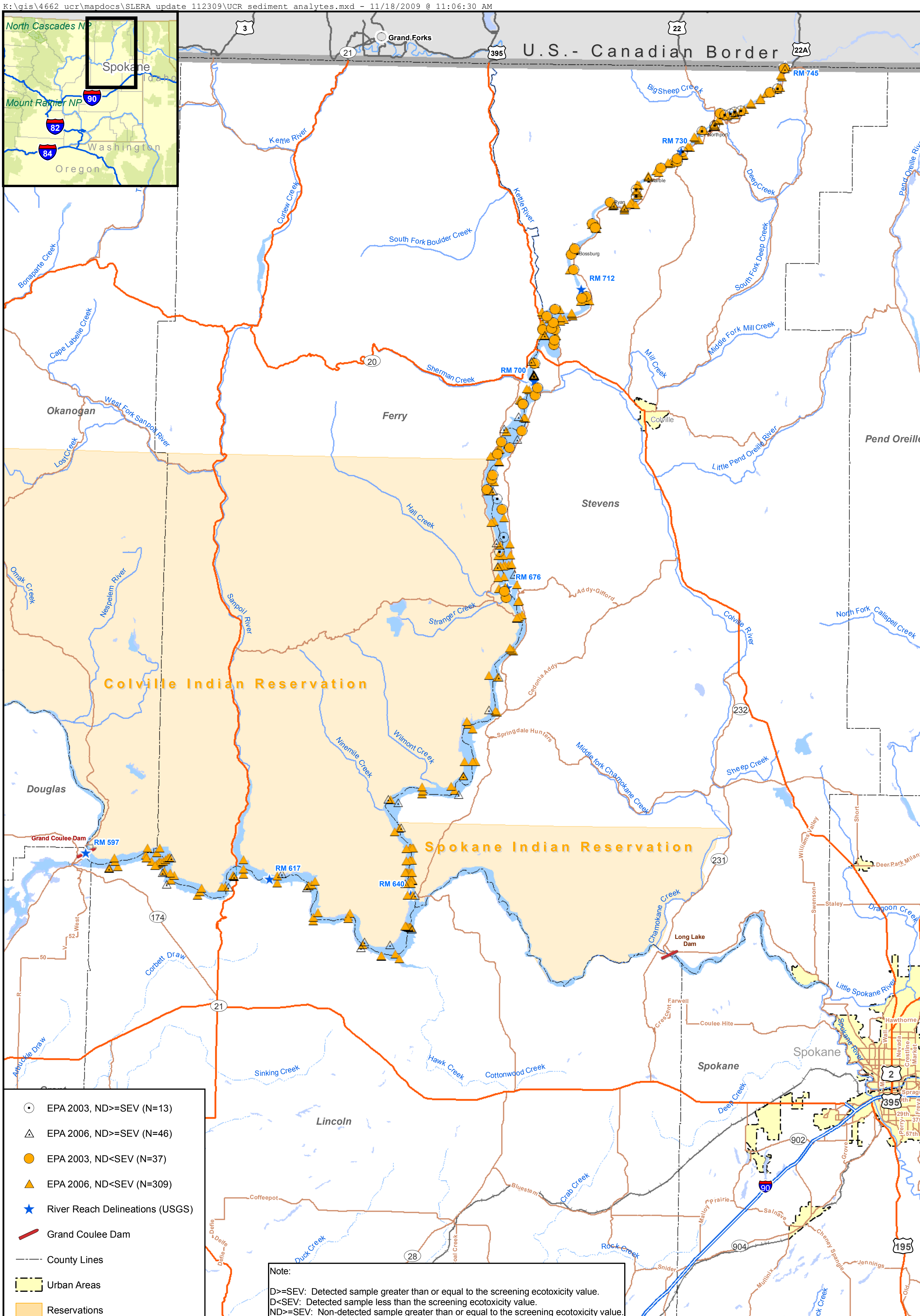

Parametrix Integral

Map B-5. **Sediment Sampling Locations For Endosulfan II**

Upper Columbia River, WA

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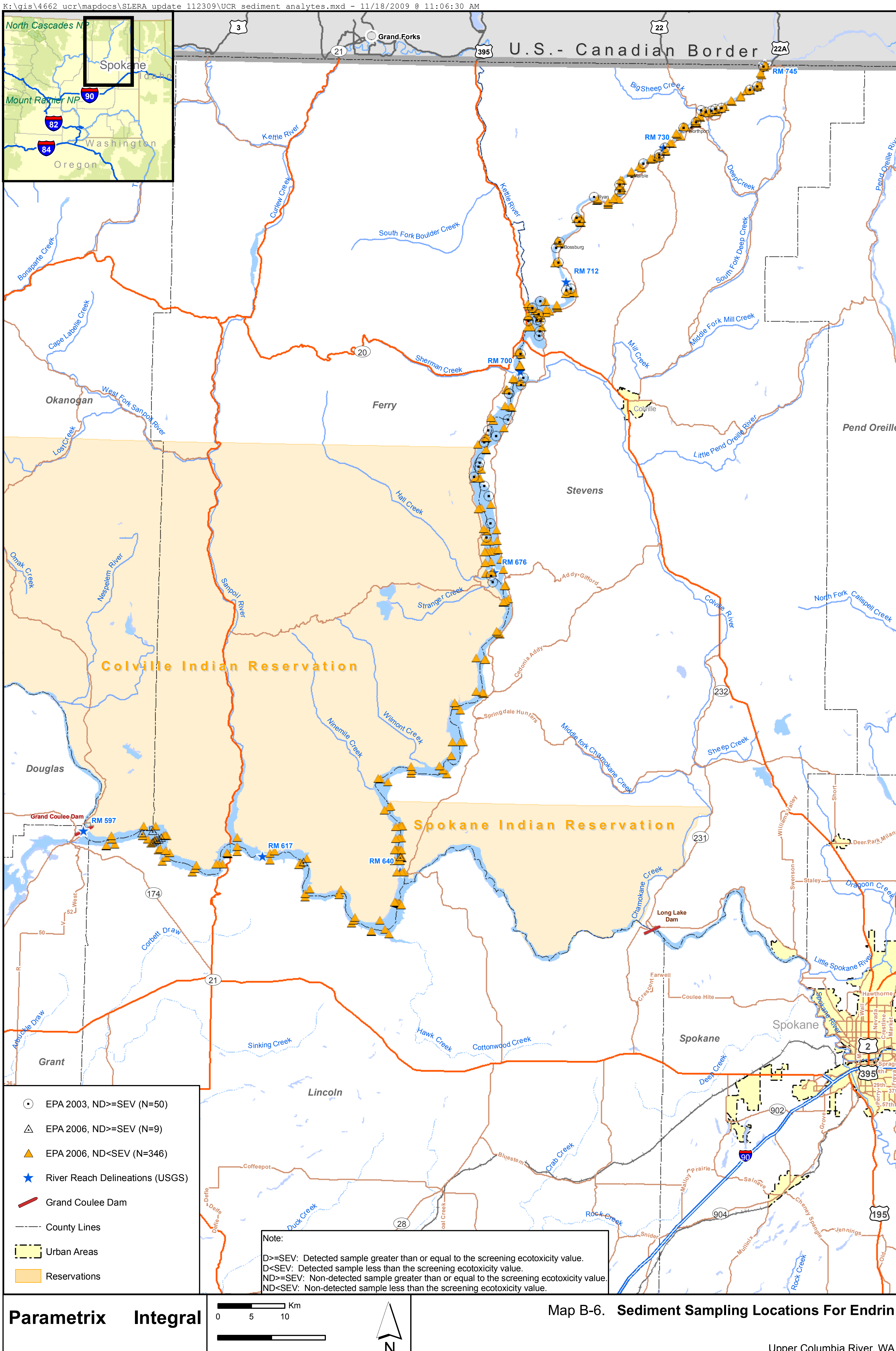

Parametrix **Integral**

Map B-6. **Sediment Sampling Locations For Endrin**

Upper Columbia River, WA

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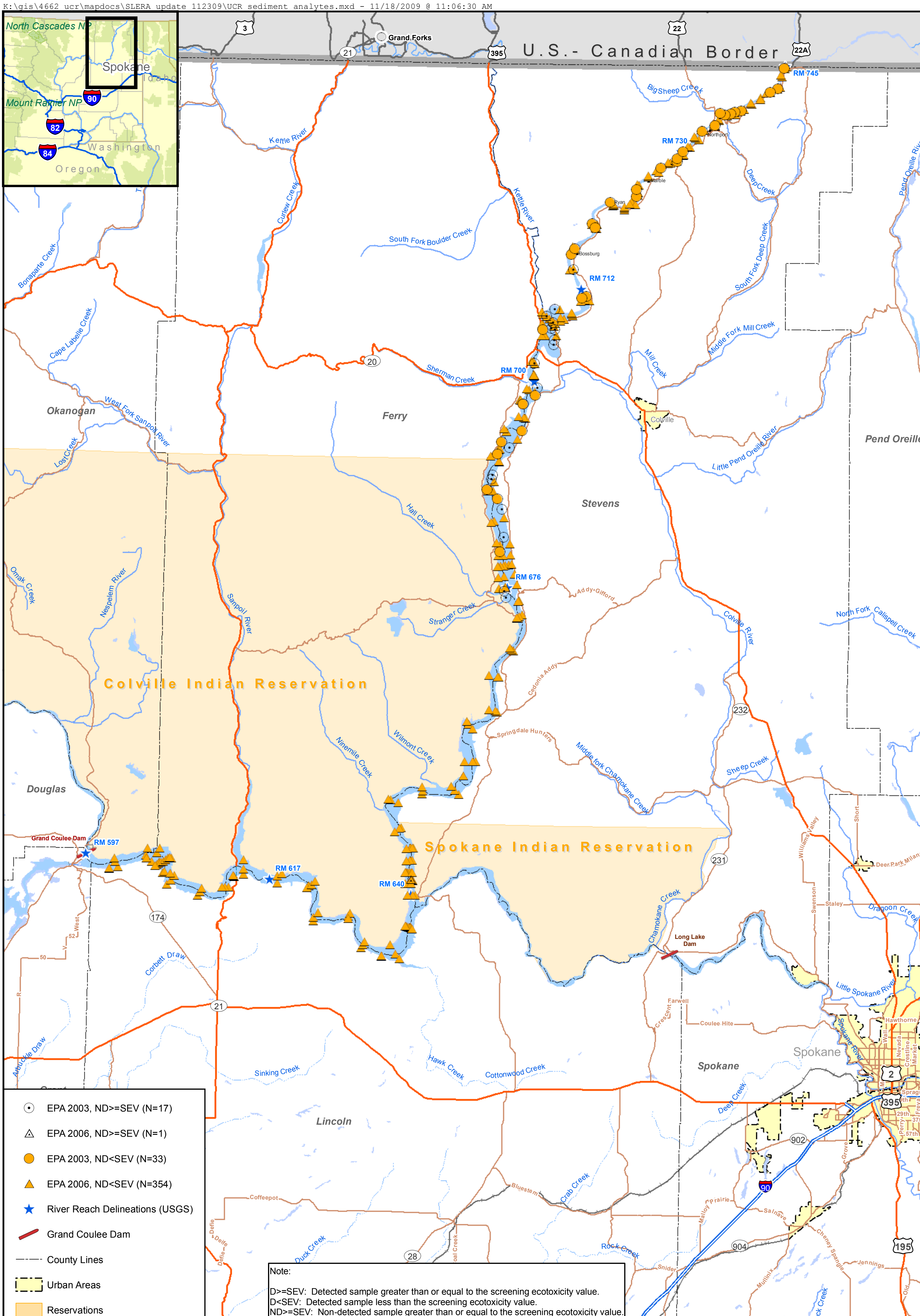

Parametrix Integral

Km
0 5 10

N

Map B-7. **Sediment Sampling Locations For Heptachlor epoxide**

Upper Columbia River, WA

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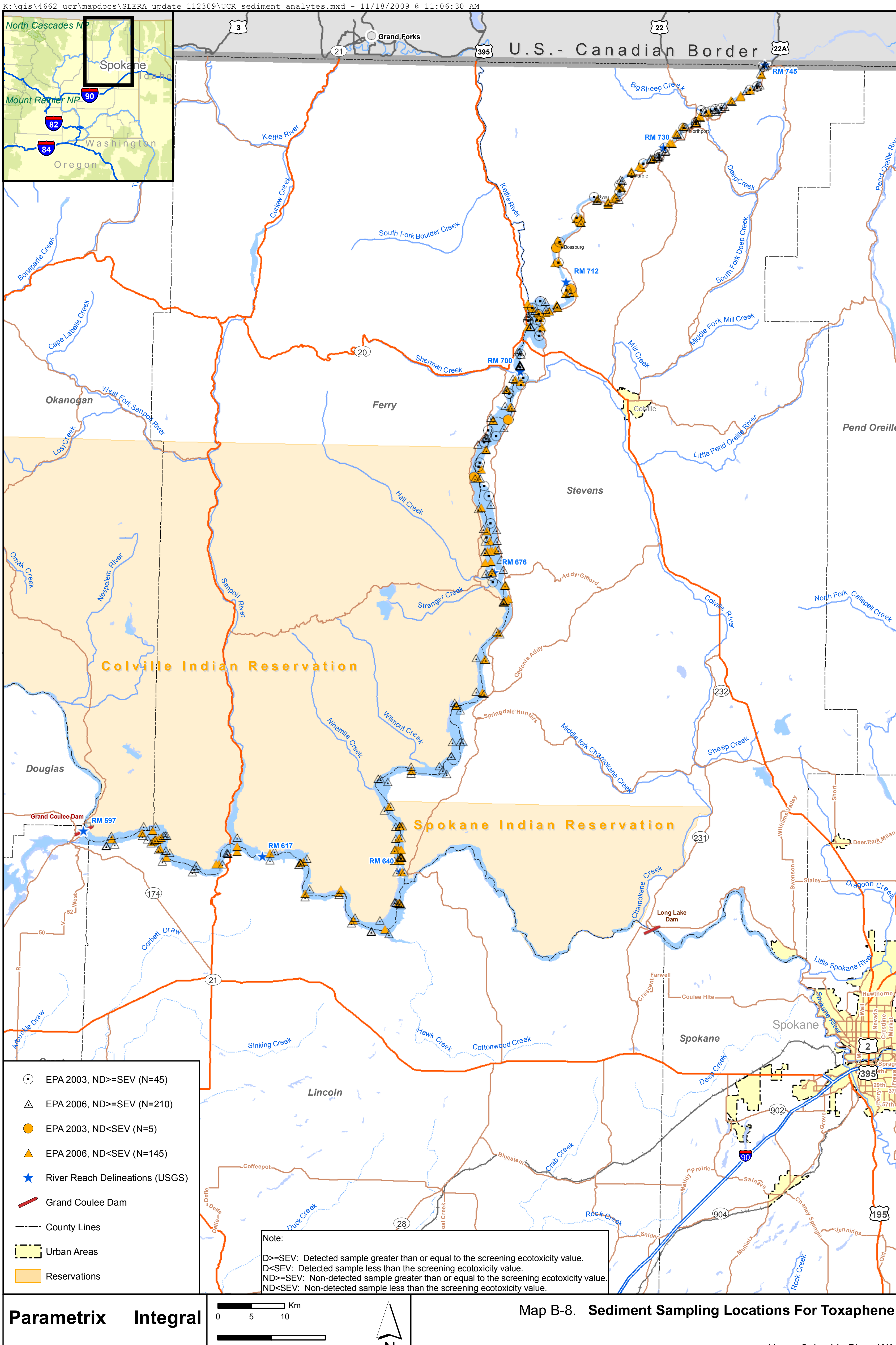

Parametrix **Integral**

Map B-8. **Sediment Sampling Locations For Toxaphene**

Upper Columbia River, WA

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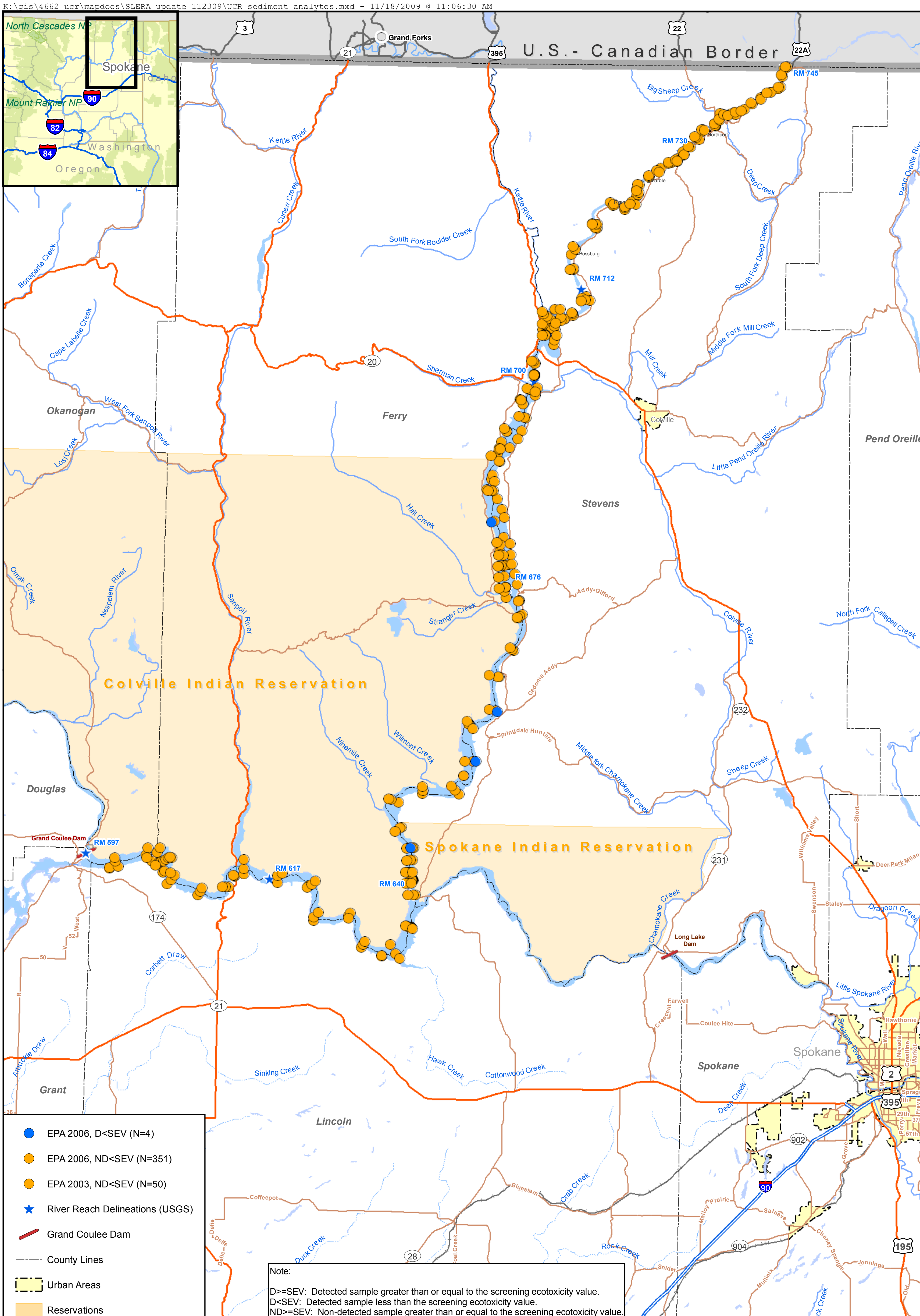


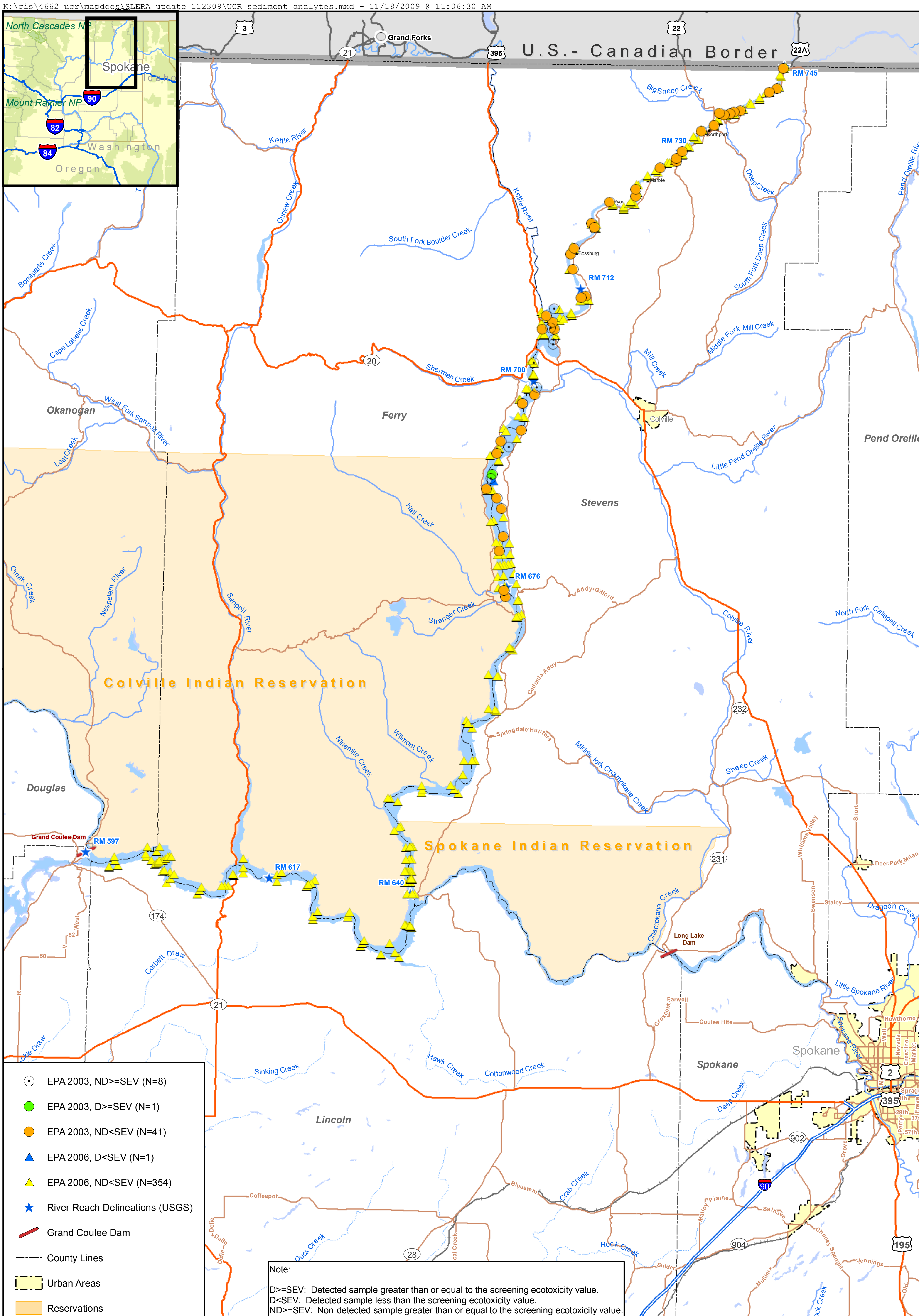
Parametrix **Integral**

Km 0 5 10

N

Map B-9. **Sediment Sampling Locations For Total Chlordane (1/2 DL)**

Upper Columbia River, WA



Parametrix Integral

Km
0 5 10

N

Map B-10. **Sediment Sampling Locations For Total PCBs (1/2 DL)**

Upper Columbia River, WA

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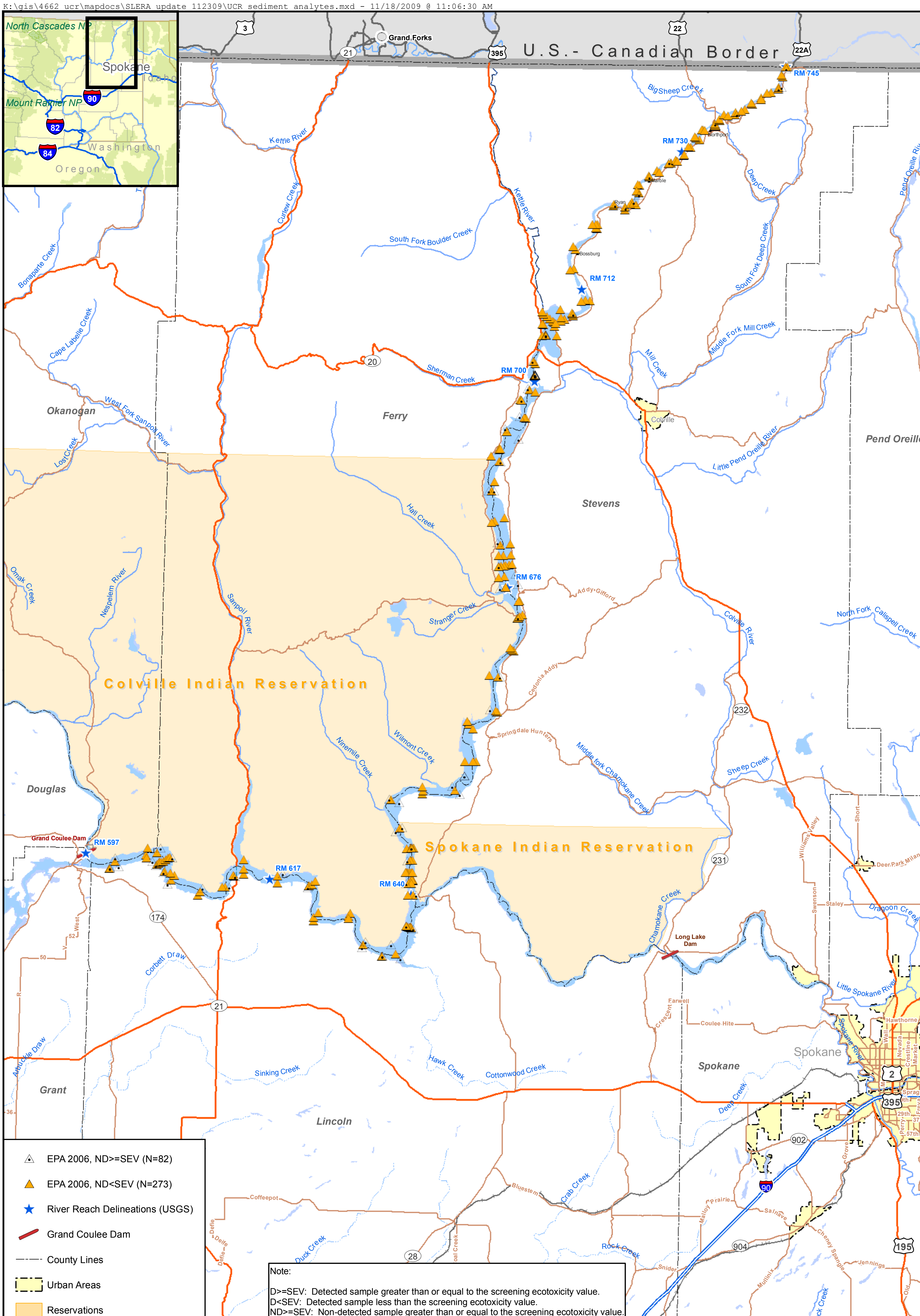

EPA 2006, ND>=SEV (N=82)

EPA 2006, ND<SEV (N=273)

River Reach Delineations (USGS)

Grand Coulee Dam

County Lines

Urban Areas

Reservations

Note:

D>=SEV: Detected sample greater than or equal to the screening ecotoxicity value.
D<SEV: Detected sample less than the screening ecotoxicity value.
ND>=SEV: Non-detected sample greater than or equal to the screening ecotoxicity value.
ND<SEV: Non-detected sample less than the screening ecotoxicity value.

Parametrix **Integral**

Km 0 5 10

N

Map B-11. **Sediment Sampling Locations For 1,1'-Biphenyl**

Upper Columbia River, WA

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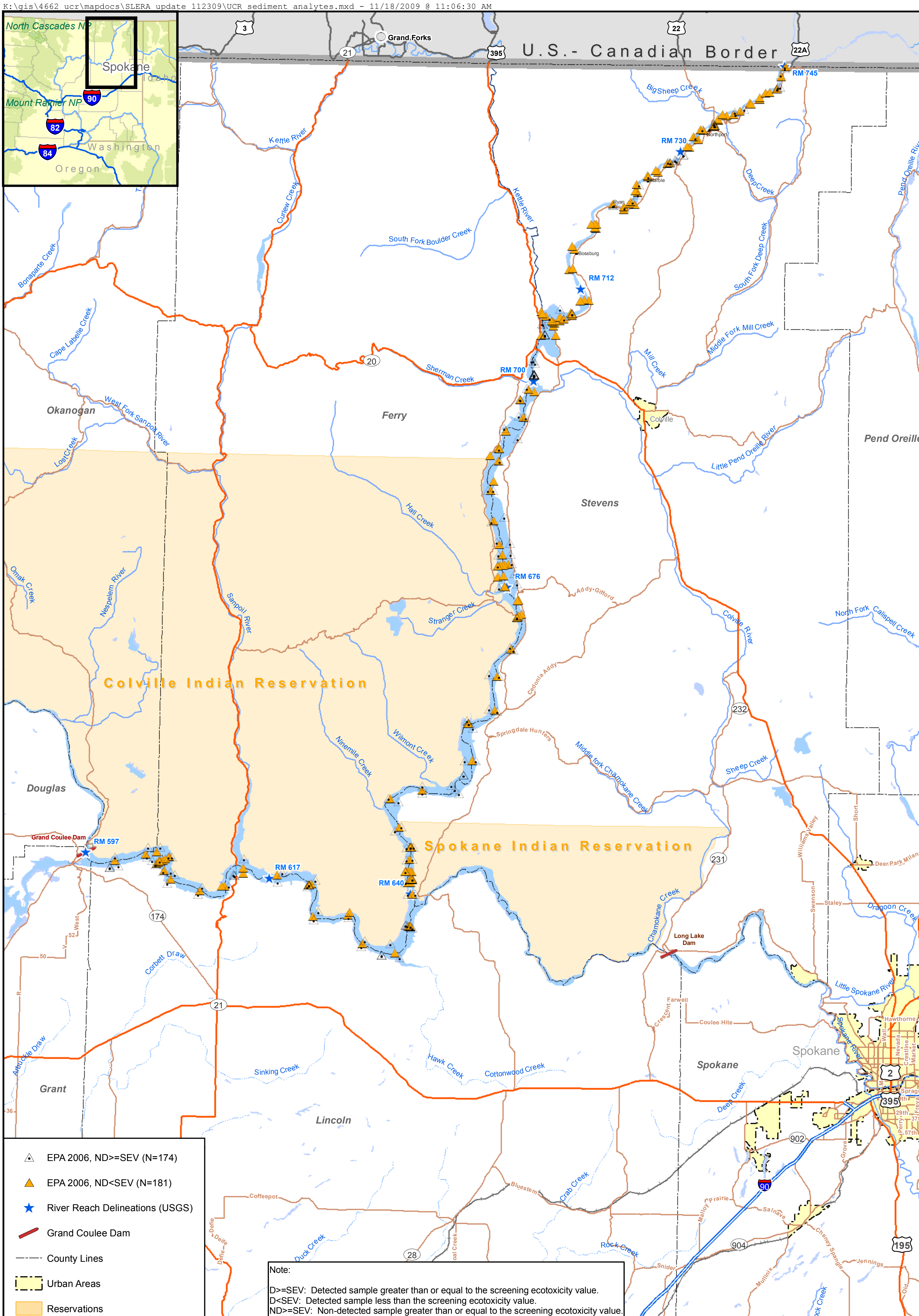


EPA 2006, ND>=SEV (N=174)

EPA 2006, ND<SEV (N=181)

River Reach Delineations (USGS)

Grand Coulee Dam

County Lines

Urban Areas

Reservations

Note:

D>=SEV: Detected sample greater than or equal to the screening ecotoxicity value.
D<SEV: Detected sample less than the screening ecotoxicity value.
ND>=SEV: Non-detected sample greater than or equal to the screening ecotoxicity value.
ND<SEV: Non-detected sample less than the screening ecotoxicity value.

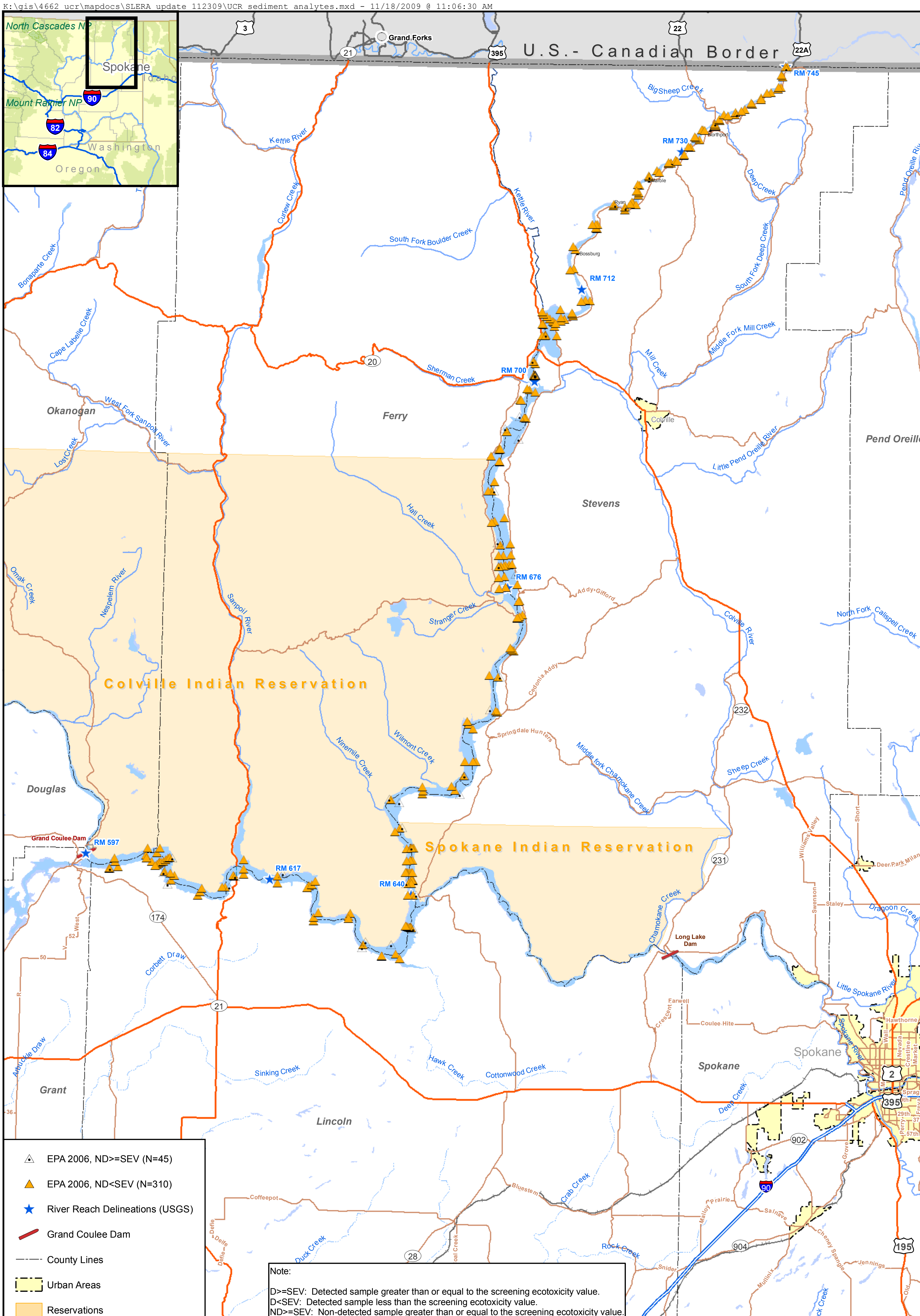
Parametrix **Integral**

Km
0 5 10

N

Map B-12. **Sediment Sampling Locations For 1,2-Dichlorobenzene**

Upper Columbia River, WA



Note:

D>=SEV: Detected sample greater than or equal to the screening ecotoxicity value.
D<SEV: Detected sample less than the screening ecotoxicity value.
ND>=SEV: Non-detected sample greater than or equal to the screening ecotoxicity value.
ND<SEV: Non-detected sample less than the screening ecotoxicity value.

Parametrix **Integral**

0 5 10 Km

N

Map B-13. **Sediment Sampling Locations For 1,3-Dichlorobenzene**

Upper Columbia River, WA

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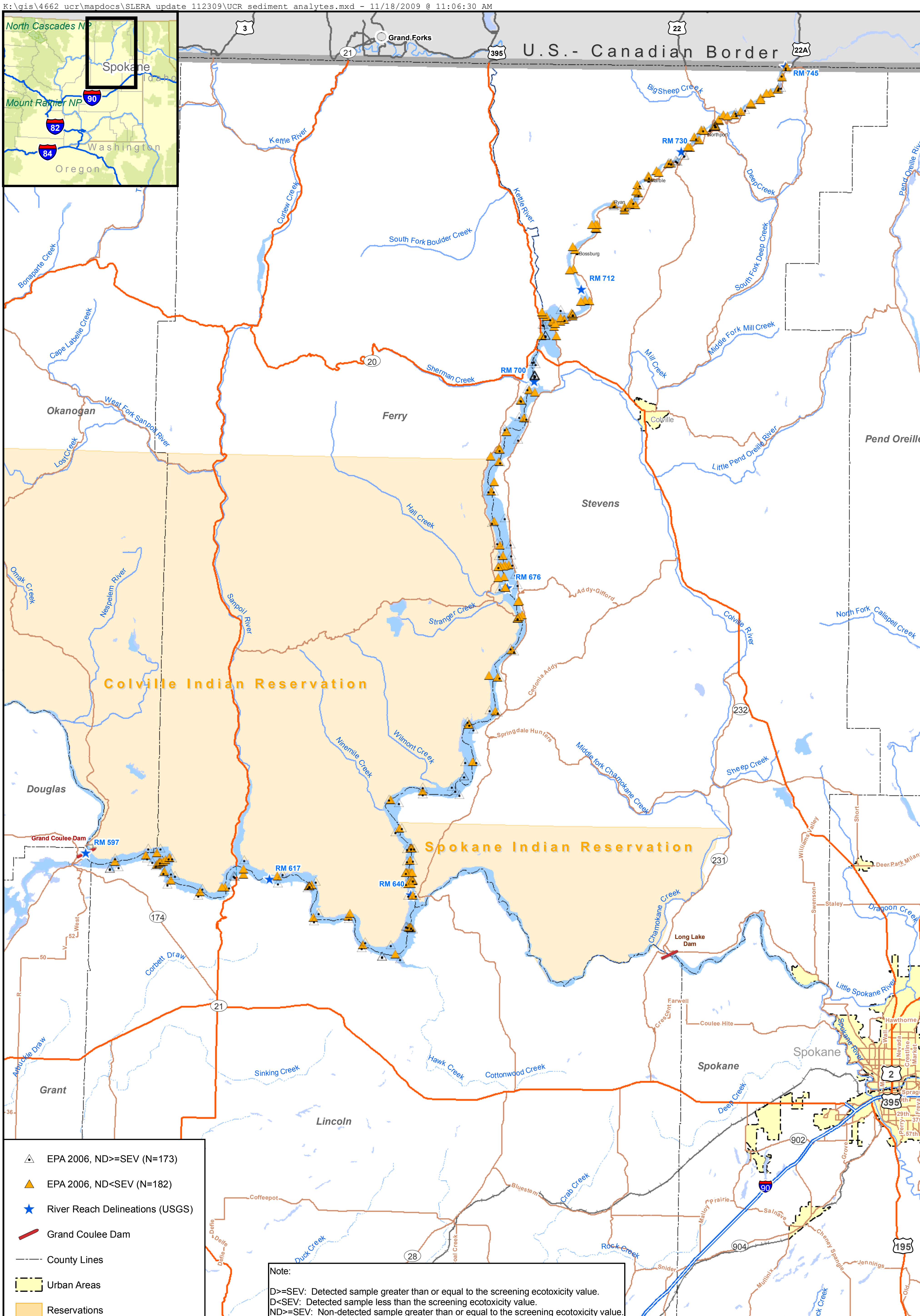

Parametrix **Integral**

Km 0 5 10

N

Map B-14. **Sediment Sampling Locations For 1,4-Dichlorobenzene**

Upper Columbia River, WA

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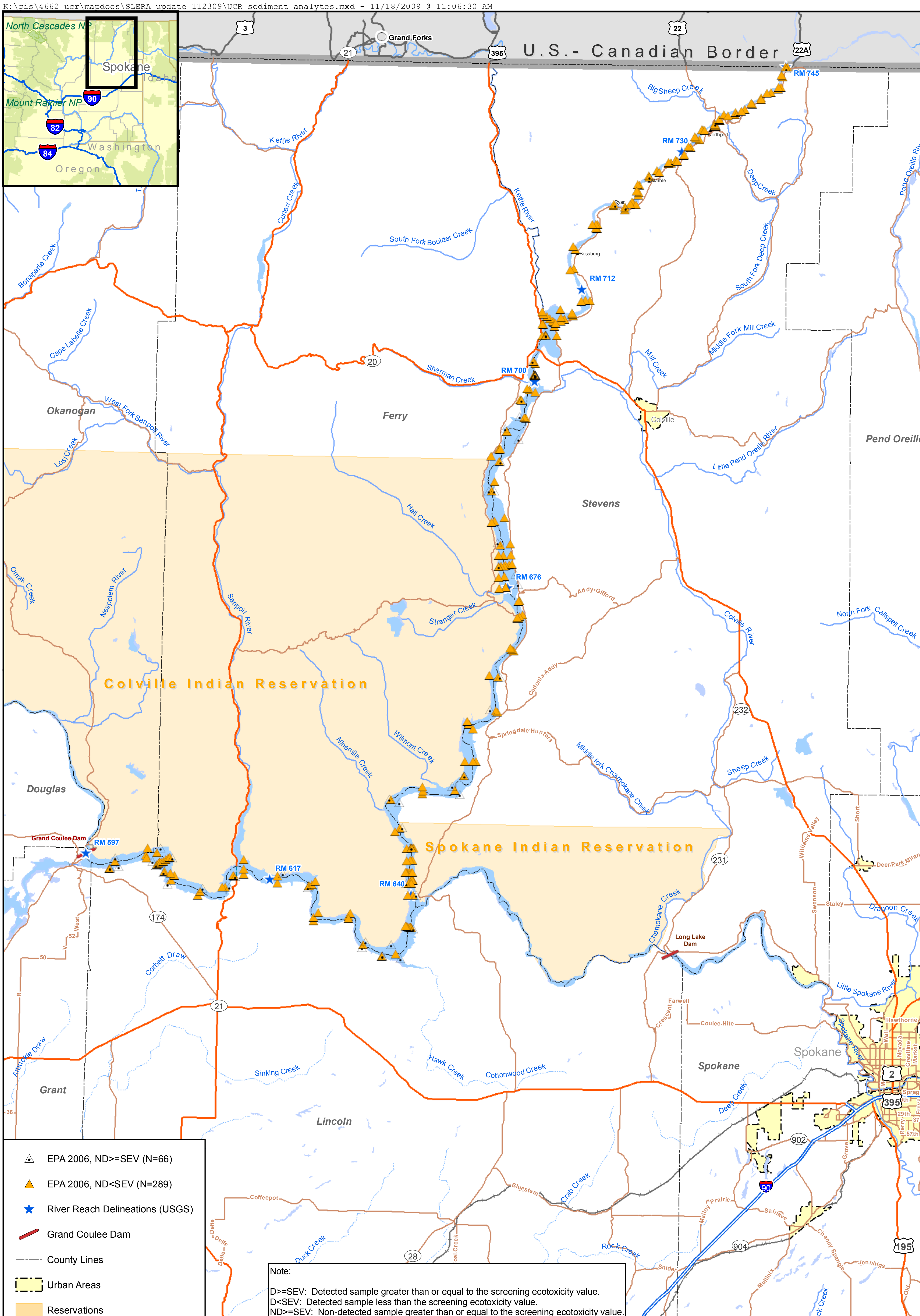

Parametrix **Integral**

Km
0 5 10

N

Map B-15. **Sediment Sampling Locations For 4-Bromophenyl-phenylether**

Upper Columbia River, WA

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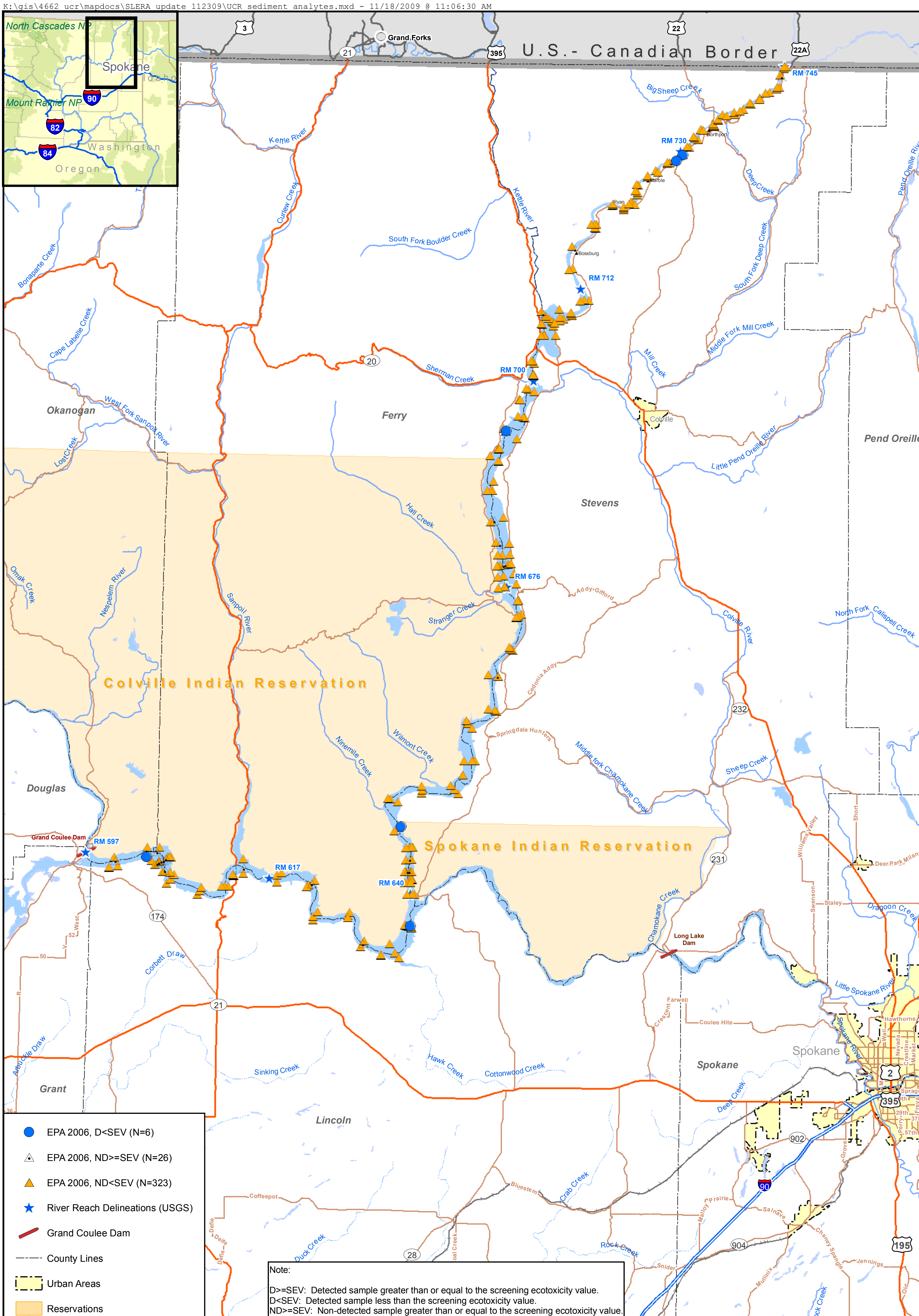

Parametrix Integral

Km
0 5 10

N

Map B-16. **Sediment Sampling Locations For bis(2-Ethylhexyl)phthalate**

Upper Columbia River, WA

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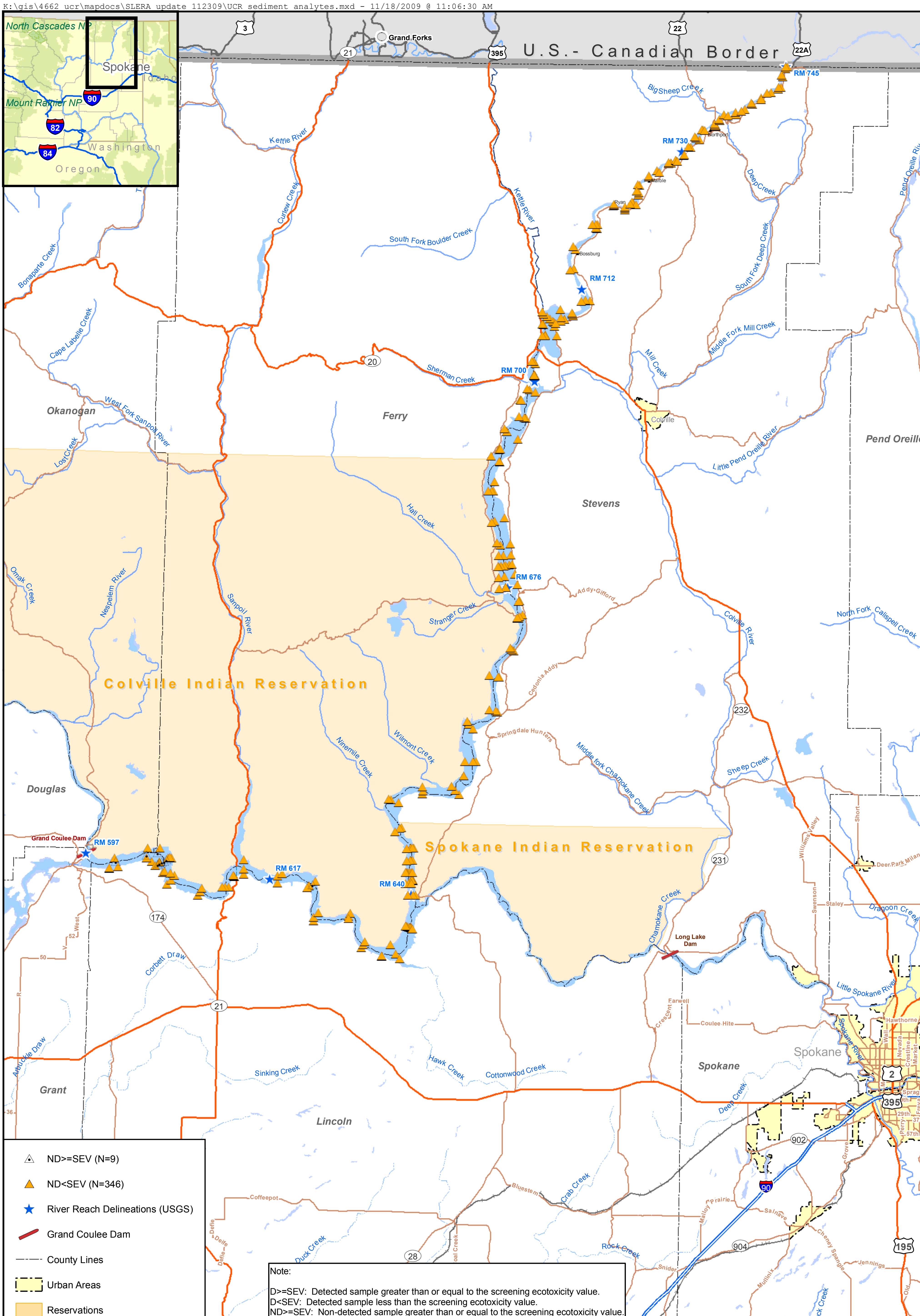

Note:

D>=SEV: Detected sample greater than or equal to the screening ecotoxicity value.
D<SEV: Detected sample less than the screening ecotoxicity value.
ND>=SEV: Non-detected sample greater than or equal to the screening ecotoxicity value.
ND<SEV: Non-detected sample less than the screening ecotoxicity value.

Parametrix **Integral**

Map B-17. **Sediment Sampling Locations For Butyl benzyl phthalate**

Upper Columbia River, WA

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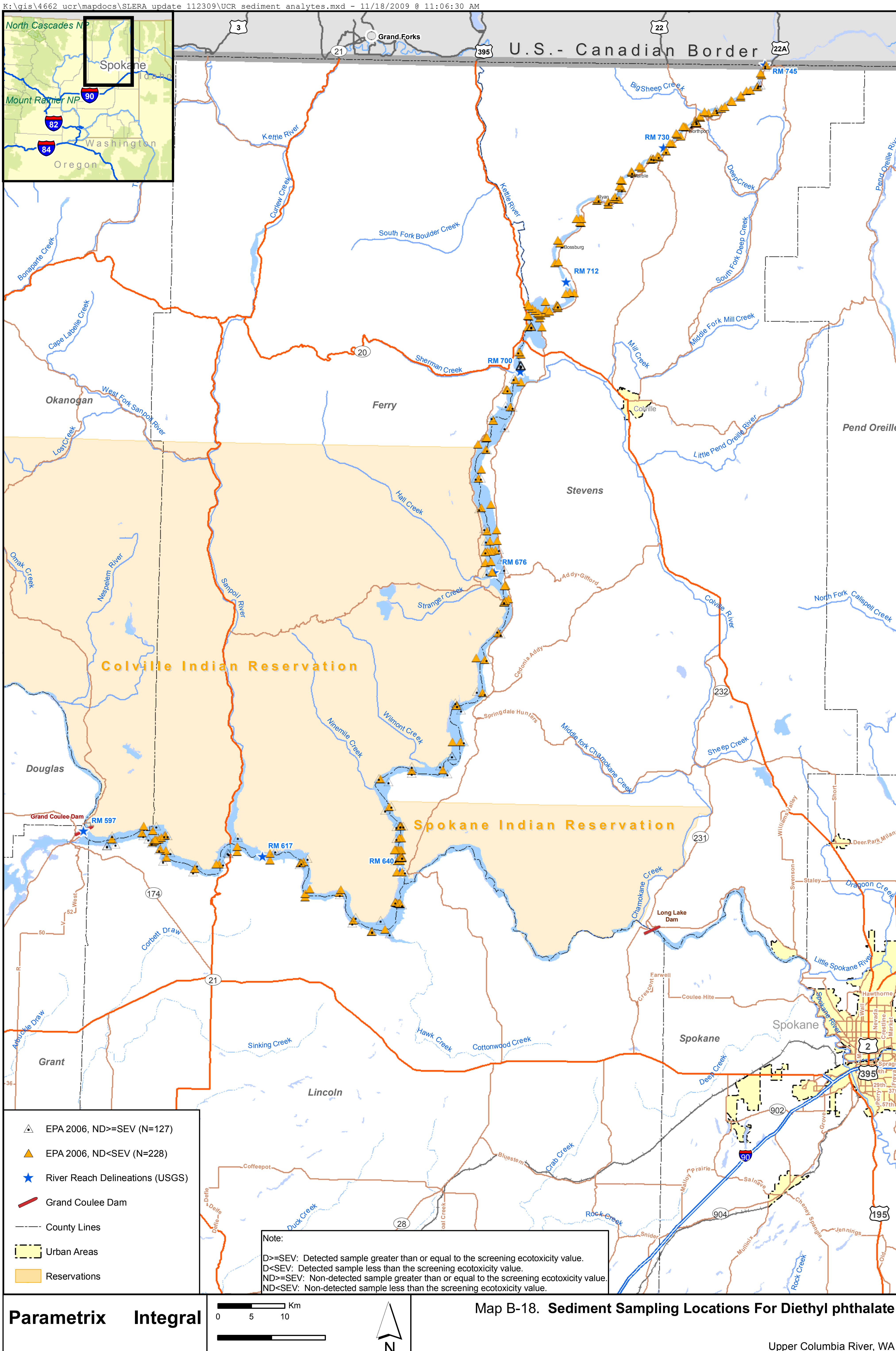

Parametrix **Integral**

Map B-18. **Sediment Sampling Locations For Diethyl phthalate**

Upper Columbia River, WA

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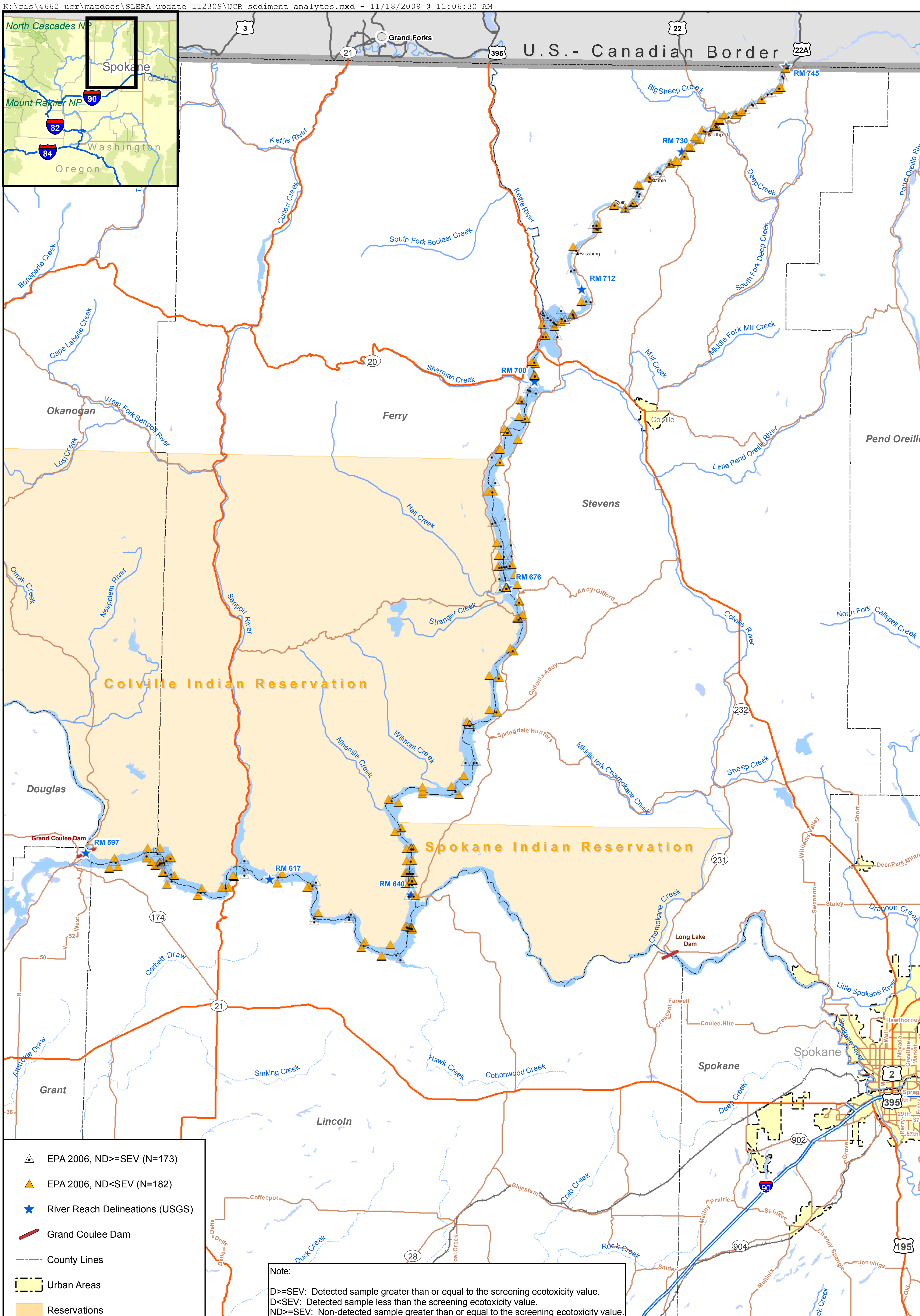

Parametrix **Integral**

Map B-19. **Sediment Sampling Locations For Di-n-butyl phthalate**

Upper Columbia River, WA

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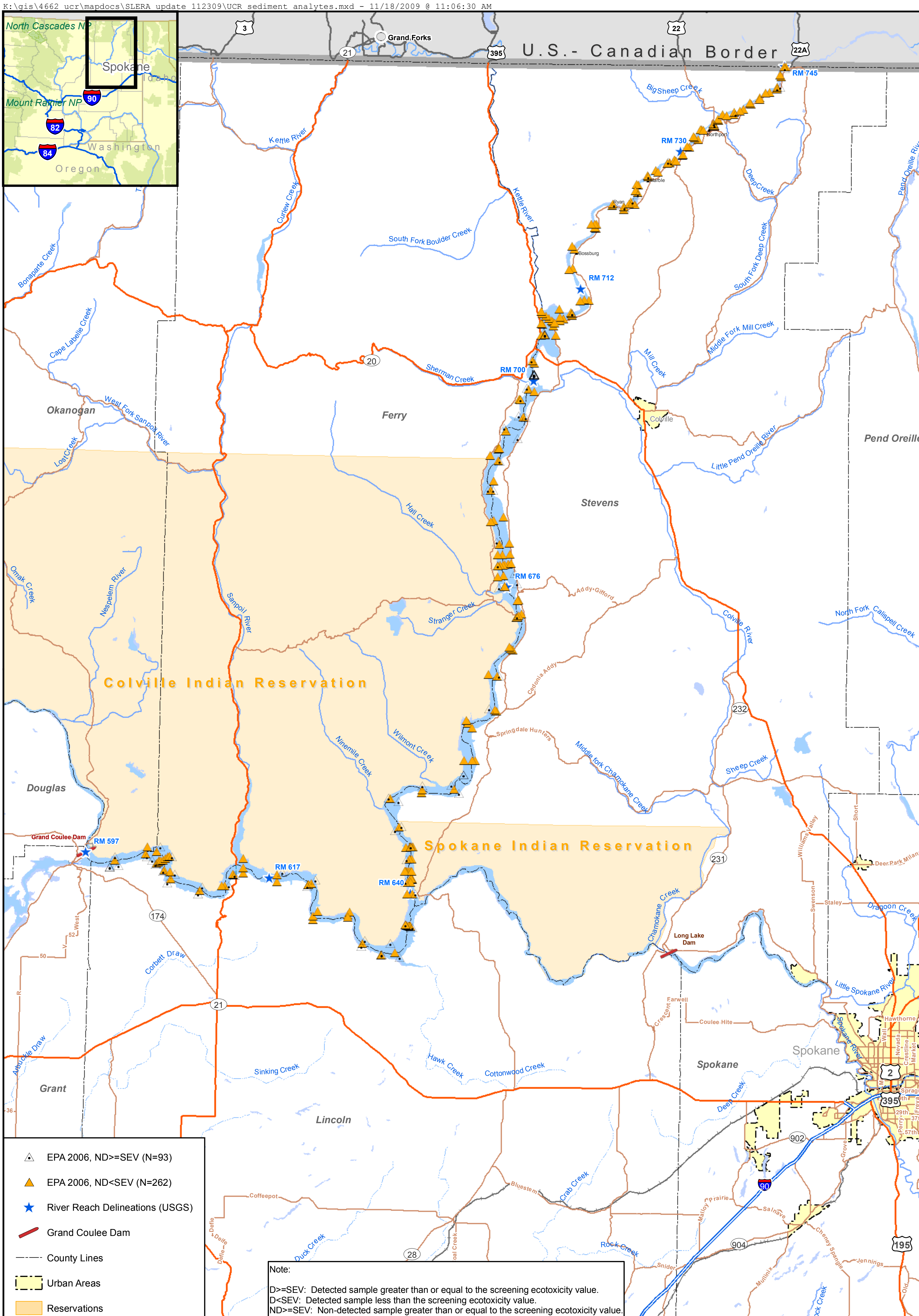

Parametrix **Integral**

Km 0 5 10

N

Map B-20. **Sediment Sampling Locations For Hexachloroethane**

Upper Columbia River, WA

APPENDIX C

SOIL DATA TABLES AND SAMPLE LOCATION MAP

APPENDIX C

Soil Data Tables

APPENDIX C

LIST OF TABLES

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TABLES

Table C-1. Summary of Screening Results for Soils Collected near the UCR

Analyte	Screening SEV [a]	Units	Surface Soil Samples N	# DT	FOD	Max Msd	#Msd≥SEV	Max DL	#DL>SEV
Antimony	0.27	mg/kg-dry	2	1	50.0%	1.3	5	3	1
Arsenic	18	mg/kg-dry	20	20	100%	47	3	n/a	n/a
Beryllium	21	mg/kg-dry	11	11	100%	0.7	0	n/a	n/a
Cadmium	0.36	mg/kg-dry	20	20	100%	6.1	20	n/a	n/a
Chromium	26	mg/kg-dry	11	11	100%	38	2	n/a	n/a
Copper	28	mg/kg-dry	11	11	100%	84	4	n/a	n/a
Lead	11	mg/kg-dry	13	13	100%	580	12	n/a	n/a
Mercury	No SEV	mg/kg-dry	11	9	81.8%	0.12	-	0.05	-
Nickel	38	mg/kg-dry	11	11	100%	56	2	n/a	n/a
Selenium	0.52	mg/kg-dry	11	10	90.9%	4.8	10	1.8	1
Silver	4.2	mg/kg-dry	11	2	18.2%	2.80	0	0.75	0
Sulfur	No SEV	mg/kg-dry	9	9	100%	310	-	-	-
Zinc	46	mg/kg-dry	13	13	100%	4280	12	n/a	n/a

Notes:

a	See Table 6-4 for summary of screening SEVs.
(shaded)	Shaded values are greater than or equal to the SEV.
SEV	Screening Ecotoxicity Value
N	Sample size
# DT	Number of detected samples
FOD	Frequency of detection
Max Msd	Maximum measured concentration
Max DL	Maximum detection limit
#DL>SEV	Number of detection limits from non-detected samples greater than SEV
n/a	Not applicable since all concentrations were detected (FOD = 100%)

Table C-2. Soil Chemistry Results from Weston (2001)

	Analyte (mg/kg-dry weight)											
Sample ID	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
OA03	no data	47	0.43	6.1	22.6	84.2	70.2	0.12	56.3	4.8	2.8	549
OA04	no data	4.4	0.42	1.5	22.2	22.5	23.7	0.054	30.2	2.5	<0.6	134
OA05	no data	7.5	0.54	3.4	15	57.3	28.5	0.049	49.1	3.9	0.33	283
OA06	no data	9.6	0.27	2.8	9.6	13.1	170	0.076	7.4	<1.8	<0.5	104
OA07	no data	9.5	0.26	1.3	19.5	51.5	30.3	<0.05	31.7	0.94	<0.55	164
OA12	1.3	3.2	0.48	1.4	21.2	14.8	49.4	0.043	16.2	1.8	<0.5	93.6
OA13	no data	7.4	0.31	0.88	19.2	25	19.1	0.053	19.8	2.2	<0.5	55.4
OA14	<3	3.5	0.26	0.32	15.8	12.8	7.7	0.04	11.5	1.4	<0.5	33.9
OA16	no data	9.5	0.54	1.2	38.3	25.2	56.7	0.078	29.3	4.3	<0.75	155
OA20	no data	6	0.37	0.76	20.1	33.3	30	<0.05	18.7	1.3	<0.55	64.1
OA21	no data	10.1	0.69	2.1	27.4	23.2	65.6	0.047	24	3	<0.65	127

Note that the '<' sign denotes a sample that was not detected at the specified value

Data Source: Weston (2001).

Table C-3. Soil Chemistry Results from TCM (2007)

Sample ID	Analyte (mg/kg-dry weight) Arsenic	Cadmium	Lead	Sulfur
TCERA_101	18	0.8	29	30
TCERA_102	5	0.4	5	20
TCERA_103	14	0.5	35	10
TCERA_104	4	4.9	105	310
TCERA_105	6	0.3	17	10
TCERA_106	30	4.5	90	150
TCERA_107	11	0.4	10	10
TCERA_109	4	1.1	74	20
TCERA_110	7	0.6	11	10

Data Source: TCM (2007).

Table C-4. United States Soil Chemistry Results at 5 cm Depth from Archibold (1974)

Sample ID	Analyte (mg/kg) Lead	Zinc
Plot 19	290	3260
Plot 20	580	4280

Note: The other 18 plots are located in Canada

Data Source: Archibold (1974).

MAPS

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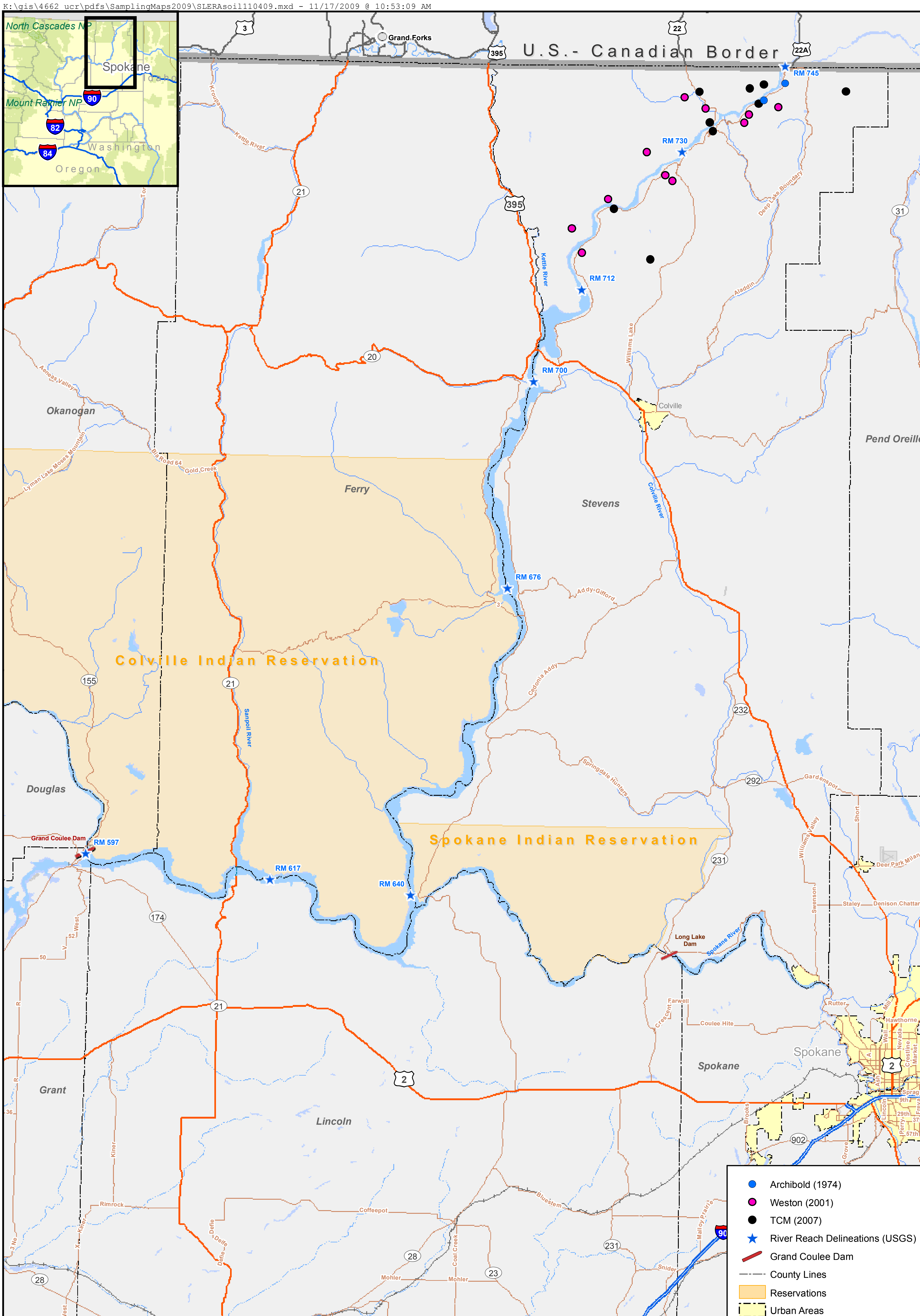

Parametrix Integral

Map C-1. **Locations of Soil Samples Evaluated in the SLERA**

Upper Columbia River, WA

APPENDIX D

AQUATIC-DEPENDENT WILDLIFE SCREENING LEVEL RISK ASSESSMENT

APPENDIX D

Aquatic-Dependent Wildlife Screening Level Risk Assessment

UPPER COLUMBIA RIVER

APPENDIX D
Aquatic-Dependent Wildlife Screening Level Risk Assessment

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ACRONYMS AND ABBREVIATIONS

ATSDR	Agency For Toxic Substances And Disease Registry
BERA	Baseline Ecological Risk Assessment
BSAF	Biota-Sediment Accumulation Factor
COI	Chemical of Interest
CSM	Conceptual Site Model
DDD	dichloro-diphenyl-dichloroethane
DDE	dichloro-diphenyl-dichloroethylene
ECOLOGY	Washington State Department of Ecology
ECO-SSL	Ecological Soil Screening Level
EF	Exposure Factor
EPA	U.S. Environmental Protection Agency
ERA	Ecological Risk Assessment
HPAH	high molecular weight polyaromatic hydrocarbon
HQ	hazard quotient
LDWG	Lower Duwamish Waterway Group
LOAEL	lowest observed adverse effect level
LPAH	low molecular weight polyaromatic hydrocarbon
LWG	Lower Willamette Group
NOAEL	no observed adverse effect level
PBDE	polybrominated diphenyl ether
PCB	polychlorinated biphenyl
RI/FS	Remedial Investigation/Feasibility Study
RM	River Mile
SEV	screening ecotoxicity value
SLERA	screening-level ecological risk assessment
SMDP	scientific management decision point
TCAI	Teck Cominco American Incorporated
TCDD	tetrachlorodibenzodioxin
TCDF	tetrachlorodibenzofuran
TEF	toxic equivalent factor
TEQ	toxicity equivalent
TRV	toxicity reference value
UCR	Upper Columbia River
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

D1 AQUATIC-DEPENDENT WILDLIFE SCREENING LEVEL RISK ASSESSMENT

D1.1 INTRODUCTION

This appendix describes the methods used to conduct a screening-level risk assessment for aquatic-dependent wildlife potentially inhabiting the Upper Columbia River (UCR). This evaluation corresponds to the U.S. Environmental Protection Agency (EPA) Ecological Risk Assessment Guidance for Superfund (USEPA 1997) Steps 1 and 2. Aquatic (i.e., fish and aquatic invertebrates) and wholly terrestrial[1] ecological receptors were evaluated in this screening-level ecological risk assessment (SLERA) in Appendices B, C, and D, respectively, by comparing media concentrations (i.e., surface water, sediment, and soil) to screening ecotoxicity values (SEVs). Aquatic-dependent wildlife are birds and mammals that consume one or more aquatic organisms (fish or invertebrates or plants) as part or all of their diet and may be exposed through contact or incidental ingestion of soil or sediment. The SEVs derived for specific media for other ecological receptors (e.g., based on water, sediment, or soil concentrations) do not adequately encompass the dietary exposures experienced by aquatic-dependent wildlife. Therefore, a detailed evaluation of potential dietary exposures was conducted to address the potential risks encountered by this class of ecological receptors for the chemicals of interest (COIs) in the UCR. The remaining sections of this appendix identify the representative aquatic-dependent species evaluated in this SLERA, the estimated dietary exposure concentrations, the effects (toxicity) data used to evaluate risk from exposure to COIs, and the results (i.e., scientific management decision point, SMDP) of the screening evaluation.

D1.2 AQUATIC-DEPENDENT RECEPTORS

Wildlife receptors evaluated in this SLERA were selected based on knowledge of the UCR, review of various EPA Region 10 Ecological Risk Assessment (ERA) documents, review of discussion materials from the April 2007 and January 2008 workshops, and the comments received on the UCR Remedial Investigation/Feasibility Study (RI/FS) Draft Work Plan. The avian and mammalian receptors evaluated in this SLERA represent:

- Various feeding guilds (i.e., carnivores, omnivores, piscivores, and herbivores)
- Comparable species anticipated to be present in the UCR project area
- Highly exposed species (i.e., if several species had similar dietary preferences, the species with the highest ingestion rate to body weight ratio was selected to allow for conservative exposure estimation).

---

[1] Wholly terrestrial refers to plants, invertebrates, birds, and mammals exposed to chemicals of interest (COIs) in terrestrial areas not in contact with the Columbia River, Lake Roosevelt, and associated wetland or riparian areas.

The representative aquatic-dependent receptors evaluated are as follows:

- Avian feeding guilds and species
  - Piscivores/carnivores – great blue heron, osprey, belted kingfisher, and bald eagle
  - Omnivores – mallard and lesser scaup
  - Herbivores – Canada goose and tundra swan
  - Emergent insectivores/benthic invertivores – spotted sandpiper (benthic invertebrates) and swallow (emergent invertebrates)
- Mammalian feeding guilds and species
  - Piscivores/carnivores – mink and river otter
  - Omnivores – raccoon
  - Herbivores – muskrat
  - Emergent insectivores – little brown myotis.

D1.3 EXPOSURE PATHWAYS

There are four general pathways through which aquatic-dependent wildlife receptors may be exposed to chemicals in environmental media. These pathways are:

- Direct contact with abiotic environmental media (e.g., soil, sediment, or water)
- Ingestion of abiotic environmental media (e.g., soil, sediment, or water)
- Inhalation (i.e., lungs)
- Dietary consumption of contaminated biota (e.g., fish or plant tissue).

Each of these pathways as they relate to specific ecological receptors are shown in the Conceptual Site Model (CSM) figures presented in the main body of this document (Figures 5-1 and 6-1). The following aquatic-dependent wildlife SLERA focused on exposure via ingestion of abiotic media and biotic tissues.

D1.4 SCREENING LEVEL ECOLOGICAL EFFECTS EVALUATION

The screening level ecological effects evaluation establishes the contaminant exposure levels that represent conservative thresholds for adverse ecological effects (USEPA 1997). The preferred ecotoxicity values (toxicity reference values, TRVs) are no observed adverse effect levels (NOAELs) from long-term (chronic) exposures examining adverse effects on survival, growth, or reproduction endpoints from relevant exposure routes (e.g., oral exposure) (USEPA 1997). NOAELs typically are identified through literature searches for studies that examine the toxicity of COIs in representative avian and mammalian species. For a limited number of COIs, the general toxicological literature has been evaluated previously by the EPA through the derivation of the Ecological Soil Screening Levels (Eco-SSLs) and by the EPA Region 10 for prior site-specific ecological risk assessments. These sources were reviewed to identify NOAELs and lowest observed adverse effect levels (LOAELs) for the COIs identified within the UCR. A more thorough evaluation of NOAELs/LOAELs will be conducted in the baseline ecological risk assessment (BERA) for the chemicals evaluated herein and those without readily available toxicity data from Eco-SSL documents. A summary of these sources is provided below:

- The Eco-SSL documents were published initially in 2003 and have undergone several revisions (USEPA 2005a). Chemical-specific Eco-SSL documents have been generated and updated by EPA from 2003 to 2007. The Eco-SSLs for birds and mammals are developed through the following four steps: 1) conduct literature searches; 2) screen identified literature using specified exclusion and acceptability criteria; 3) extract, evaluate, and score test results for applicability in deriving an Eco-SSL; and 4) derive the TRV. The literature evaluation and TRV development procedures were elaborate and, therefore, are not described herein. These procedures were finalized by EPA as standard operating procedures prior to developing chemical-specific Eco-SSLs (USEPA 2005a). TRVs were developed for reproduction, growth, population, or survival endpoints from studies primarily of chronic duration. The TRVs were generally calculated as a geometric mean of available and acceptable literature values to develop a NOAEL. For wildlife receptors, Eco-SSLs were based on the highest acceptable bounded NOAEL below the lowest acceptable bounded LOAEL (and, similarly, the lowest acceptable bounded LOAEL above the highest acceptable bounded NOAEL).
- NOAELs and LOAELs for all COIs were not available from the Eco-SSL documents; therefore, other recent ERAs conducted within Region 10 were reviewed for additional TRVs. ERAs reviewed and approved by EPA Region 10 include the following:
  - Lower Duwamish Ecological Risk Assessment (Lower Duwamish Waterway Group, LDWG 2006)
  - Coeur d'Alene Ecological Risk Assessment (USEPA 2001)
  - Portland Harbor Ecological Risk Assessment (Lower Willamette Group, LWG 2004)
  - Midnite Mine Ecological Risk Assessment (USEPA 2005b).

The TRVs adopted for use in screening COIs in the SLERA for avian and mammalian aquatic-dependent wildlife are summarized in Table D-1. The primary source for TRVs was the EPA Eco-SSLs because these were developed within the past few years using a rigorous selection process. The other ERAs reviewed used similar methods, although the details of the methods were not always described in sufficient detail to completely replicate the approach. However, Eco-SSLs and TRVs are not available for all the COIs; all COIs without an available TRV will automatically be carried forward to the BERA.

D1.5 DIOXINS/FURANS

Dioxins and furans are a class of compounds that exhibit similar toxic mechanisms (Van den Berg et al. 1998). The potency of these compounds typically is related to the most toxic congener, 2,3,7,8-tetrachlorodibenzodioxin (2,3,7,8-TCDD). TCDDs, tetrachlorodibenzofurans (TCDFs), and dioxin-like polychlorinated biphenyls (PCBs) can be normalized to 2,3,7,8-TCDD using the toxicity equivalency approach. Thus, the concentrations of this group of chemicals can be summed and evaluated as one TCDD-toxicity equivalent concentration (TCDD-TEQ). The concentrations for all media were converted to TCDD-TEQ concentrations for avian and mammalian species using the toxicity equivalency factors developed by Van den Berg et al. (1998, 2006) (Table D-2).

D1.6 SCREENING LEVEL EXPOSURE ESTIMATION

The exposure assessment provides an evaluation of the contact or co-occurrence between a COI and a receptor (e.g., birds and mammals). The objective is to describe exposure in terms of intensity, space, and time in units that can be combined with the effects assessment (USEPA 1998). The exposure assessment included measured COI concentrations in site media, as well as estimates of the rate of intake of COIs from site media from which the dose (mg/kg-body weight/day) can be calculated. Exposure concentrations for aquatic-dependent wildlife were calculated using data for all site media, both abiotic (i.e., surface water and sediments) and biotic (i.e., fish, aquatic invertebrates, and aquatic plants) that may contribute to intake of COIs by wildlife receptors. The procedures to estimate exposure are described below.

D1.6.1 Exposure Factors

The recommended avian and wildlife receptors and exposure factors (EFs) for use in the UCR BERA are presented in Table D-3. Representative species from each feeding guild were selected based on the availability of exposure factor information and body size. The smallest species with the highest ingestion rate for which data are available was selected for each guild because this species will provide a conservative estimate for exposure; smaller-bodied animals have higher metabolic rates, eat more per unit weight than larger animals, and consequently will ingest the highest dose. Exposure factors (e.g., ingestion rates, dietary preferences, body weights, etc.) were evaluated for each species based on data compiled in the EPA Wildlife Exposure Factors Handbook (USEPA 1993) and other ERAs conducted within EPA Region 10. Food ingestion rates were estimated using the equations presented in Nagy (2001) (Table D-4). Using these exposure factors, the general equation (eq.) to estimate exposure to COIs in dietary food items, water, and sediment is as follows:

$$Daily\ Dose = \frac{\left(\left(FIR \times C_{food} \times ABS_{food}\right) + \left(WIR \times C_{water}\right) + \left(SIR \times C_{sed} \times ABS_{sed}\right)\right) \times AUF}{BW} \qquad \text{(Eq. 1)}$$

Where:

Daily Dose = COIs ingested per day via food, water, and sediment (mg/kg body weight/day)

FIR =	food ingestion rate (kg food dry weight/day)
C_{food} =	concentration in prey items (mg/kg food dry-weight)
ABS_{food} =	bioavailable fraction absorbed from ingested prey items (unitless)
WIR =	water ingestion rate (L water/day)
C_{water} =	concentration in water (mg/L water)
SIR =	sediment ingestion rate (kg sediment dry-weight/day)
C_{sed} =	concentration in sediment (mg/kg dry-weight)
ABS_{sed} =	bioavailable fraction absorbed from ingested sediment (unitless) (conservative assumption of 1.0 assumed)
AUF =	area use factor (unitless); fraction of time that a receptor spends foraging in the UCR relative to the entire home range (conservative assumption of 1.0 assumed)
BW =	species body weight (kg)

D1.6.2 Exposure Concentration Estimates

Chemical concentrations in sediment, water, and fish tissue have been characterized in various portions of the UCR. All available data that are considered of adequate quality (see Section 10 of the main body of this document) were used to estimate exposure concentrations for aquatic-dependent wildlife. Exposure concentrations were estimated for the each of the physiographic units as described in TCAI (2007a,b). Water, sediment, and tissue samples were pooled by geographic location corresponding to the following river reach designations:

- Reach 1 (U.S.-Canadian border at river mile [RM] 745 to RM 730)
- Reach 2 (RM 730 to RM 711)
- Reach 3 (RM 711 to RM 699)
- Reach 4a (RM 699 to RM 676)[2]
- Reach 4b (RM 676 to RM 640)
- Reach 5 (RM 640 to RM 617)
- Reach 6 (RM 617 to Grand Coulee Dam near RM 597).

The estimated exposure concentrations were based on the maximum measured concentration for each COI by media and river reach. For samples where chemical concentrations were

[2] There is a discrepancy in river mile designations by U.S. Geological Survey (USGS) and by USEPA (2006a). USGS river miles increase from RM 680 to RM 682 over a less than 1 river mile segment when transitioning between the Inchelium and Rice USGS quadrants, whereas USEPA (2006a) increases from RM 680 to RM 681 over the same segment. To remain consistent with international borders, the USGS river mile designations are used herein. The river mile designation for samples collected by EPA were increased by 1 mile for samples collected at RM 681 and above to address this issue and for pooling data sets by river reach.

reported as "non-detected," values were set equal to ½ of the sample-specific detection limit. Several organic chemicals were evaluated by summing the individual constituents of a chemical group. These included tetrachlorodibenzo-dioxins and furans (TCDDs/TCDFs) (see toxicity equivalent factor [TEFs] in Table D-2), PCBs, low molecular and high molecular weight polyaromatic hydrocarbons (LPAHs and HPAHs), and dichloro-diphenyl-dichloroethylene (DDE), dichloro-diphenyl-dichloroethane (DDD), and 1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane (DDT) isomers (Total DDx). LPAHs included the sum of 2-methyl-naphthalene, acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene. HPAHs included the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene. Summary statistics for the various media are presented in Table D-5 (surface water), Tables D-6 and D-7 (sediment), and Table D-8 (fish tissue).

D1.6.3 Surface Water

Surface water measurements for 'total metals,' including the dissolved and particulate phases, were used in the SLERA for aquatic-dependent wildlife. Total concentrations for COIs in surface water from 2000 through 2006 were only available from the Washington State Department of Ecology (Ecology) station at Northport, Washington (Station #61A070) (Ecology 2007). Therefore, exposure to COIs in surface water could only be assessed in Reach 1. Summary statistics for COIs in surface water in Reach 1 are presented in Table D-5.

D1.6.4 Sediment

Several sediment investigations have been conducted throughout the UCR from 2000 through 2006. These include sediment samples collected by the USEPA (2003, 2006a); Ecology (2001); and the U.S. Geological Survey (USGS) (Paulson et al. 2006; Cox et al. 2005). This is the same data set that was used in the aquatic life SLERA (see Appendix A). Sediment samples were collected from beach locations, transects (i.e., between river banks), and cores. Sediment samples were analyzed in the following manner:

1. All sediment data from within the project area (i.e., below the mean high water mark) from the above data sources were pooled;
2. Sediment data were subdivided by river reach (i.e., 1, 2, 3, 4a, 4b, 5, and 6) (see Table D-6 for sample identification (IDs) by river reach);
3. All surface sediment data (0 to 12 inches) were included in the exposure concentration estimates for each river reach, with the exception of subsurface samples. More specifically, in the case of sediment core samples, only the uppermost fraction of the core (e.g., typically included a range of 0 to 12 inches) was included in the data set.
4. For the SLERA, no data were excluded on the basis of sample elevation as compared to water elevation (e.g., mean high or mean low pool elevation).

Concentration estimates for COIs in sediment are presented by river reach in Table D-7.

D1.6.5 Fish Tissue

Fish tissue data from the UCR for 2000 through 2006 were only available from a study conducted by USEPA (2007h). This study collected composite samples of burbot, largescale suckers, rainbow trout (hatchery and wild), walleye, lake whitefish, and mountain whitefish. Whole body tissue samples (including whole body samples estimated from fillet and offal samples) from all species were pooled and analyzed in the same manner as described for the sediment samples. The estimated whole body concentration for a given analyte was calculated from the fillet and offal samples using the following equation:

$$C_{ew} = \frac{((C_f \times W_f) + (C_o \times W_o))}{(W_f + W_o)} \qquad \text{(Eq. 2)}$$

Where:

C_{ew} =	Estimated mean whole body composite concentration of analyte in wet weight (mg/kg-wet weight)
C_f =	Concentration in wet weight of analyte in fillet composite (mg/kg-wet weight)
W_f =	Mean wet weight of fillet tissue (grams)
C_o =	Concentration in wet weight of analyte in offal composite (mg/kg-wet weight)
W_o =	Mean wet weight of offal tissue (grams)

In addition, wet-weight concentrations were converted to dry weights to conform to the appropriate units of the exposure estimate equation (Eq. 1):

$$Concentration\ (mg/kg - dry) = \frac{concentration\ (mg/kg - wet)}{(100 - Percent\ Moisture)/100} \qquad \text{(Eq. 3)}$$

The COI concentrations in fish tissue samples are presented in Table D-8.

D1.6.6 Aquatic Invertebrate Tissues

Aquatic invertebrate tissues (including mussels) have not been collected and analyzed for COIs within the UCR. Several of the aquatic-dependent wildlife receptors consume aquatic life stage or emergent life stage benthic invertebrates as part of their typical diet (e.g., spotted sandpiper, belted kingfisher, mallard, and little brown myotis). Therefore, it was necessary to estimate the concentrations of COIs in benthic invertebrate tissues. Tissue concentrations can be related to sediment concentrations using biota-sediment accumulation factors (BSAFs). For inorganic constituents, BSAFs can be estimated by comparing the ratio of concentrations of COIs in sediment to concentrations in tissue. Inorganic substances are not typically normalized to lipid content of tissues or organic carbon content of sediments, as is the case for organic compounds.

For non-ionic organic compounds, the BSAF is defined by the following relationship according to Ankley et al. (1992):

$$BSAF = \frac{(C_o \div f_{lip})}{(C_s \div f_{oc})} \qquad \text{(Eq. 4)}$$

Where:

BSAF = Biota-sediment accumulation factor (unitless, normalized to dry weight)

C_o = The chemical concentration in the organism (mg/kg dry weight)

f_{lip} = The lipid fraction of the organism (g lipid/g dry weight)

C_s = The chemical concentration in surficial sediment (mg/kg dry weight)

F_{oc} = The fraction of the sediments as organic carbon (g organic carbon/g dry weight)

Published BSAFs for inorganic and organic compounds were available from the Oak Ridge National Laboratory (Jones et al. 1997) and the U.S. Army Corps of Engineers (USACE 2007). Where available, the 90th percentile of the distribution of estimated BSAF values was conservatively used in the SLERA for aquatic-dependent wildlife (Jones et al. 1997). This is a conservative assumption because it applies an upper bound of bioaccumulation and does not consider site-specific bioavailability.

Several metals (i.e., gold, aluminum, barium, beryllium, calcium, cobalt, iron, potassium, magnesium, manganese, sodium, antimony, selenium, tantalum, and uranium) for which sediment data exist did not have BSAFs from the previous sources. The literature was searched to identify additional BSAFs or data that could be used to derive the missing BSAFs. One study identified by the literature search reported a BSAF of 0.18 for silver accumulation in freshwater oligochaetes (Hirsch 1998). Another useful study was from the USGS and evaluated the concentrations of selenium and other trace elements in sediment and non-depurated composite benthic invertebrate samples collected at freshwater sites near phosphate mining operations in the Blackfoot River watershed in southeastern Idaho (Hamilton and Buhl 2002; 2003a,b). While these southeastern Idaho sites may not have identical sediment or bioavailability characteristics as sites within the UCR, we have assumed the data provide a conservative estimate of the relationship between COI concentrations in sediments and invertebrate tissues. Accordingly, 90th percentile BSAFs were calculated for metals evaluated by the USGS as the ratio of metal concentrations in benthic invertebrates (dry weight) to the metal concentrations in sediment (dry weight).

For all other COIs for which a BSAF for invertebrates was not identified, or data to derive a BSAF could not be found, a default BSAF value of 1.0 was entered into the exposure models (i.e., assumed concentrations in organism tissues are equivalent to concentrations in adjacent sediments). The default value of 1.0 is uncertain and could over- or underestimate the concentrations in tissues. The default BSAF of 1.0 provides a reasonable estimate (i.e., within an order of magnitude) as compared with other inorganic metals (BSAF ranged from 0.18 to 7.99).

The BSAFs are presented in Table D-9 and the corresponding aquatic invertebrate tissue concentrations estimated from sediment concentrations and BSAFs are presented in Table D-11.

D1.6.7 Aquatic Plant Tissues

Aquatic plant tissues (e.g., macrophytes) have not been collected and analyzed for COIs within the UCR. Therefore, as with aquatic invertebrate tissues, it was necessary to estimate the concentrations of COIs in aquatic plant tissues. Tissue concentrations of rooted macrophytes can be related to sediment concentrations as demonstrated in several published journal articles (Jackson et al. 1991; Jackson and Kalff 1993; Jackson 1998; Vanier et al. 1999; Vanier and Planas 2001). While it is known that aquatic plants accumulate chemicals from both sediment and water (Jackson 1998), concentrations of metals in sediments only can be used to predict concentrations of chemicals in rooted aquatic plant tissues (Jackson et al. 1991; Jackson 1998). An examination of a large data set containing sediment and macrophyte concentrations from a variety of metals and metalloids was presented by Jackson et al. (1991) and Jackson (1998). The authors developed a regression (from an examination of the following metals in sediment and plant tissues: sodium, potassium, rubidium, cesium, magnesium, calcium, strontium, barium, scandium, yttrium, lanthanum, cerium, neodymium, titanium, zirconium, hafnium, niobium, chromium, manganese, iron, cobalt, nickel, copper, zinc, cadmium, aluminum, gallium, silicon, germanium, lead, phosphorus, arsenic, sulfur, selenium, thorium, fluorine, chlorine, bromine, and iodine) that showed a significant correlation (r^2=0.75) between sediment concentrations and rooted macrophytes using the following equation:

Log (plant COI concentration) = -0.08 + 0.9(Log [sediment COI concentration]).

This regression equation is intended to be applied to metals in general and was used in the SLERA to estimate the accumulation of COIs in aquatic macrophyte tissues for metals/metalloids measured in UCR sediments (Table D-7). Potential uncertainties with this approach are discussed in Section E1.8.1.

Bioaccumulation relationships between sediments and macrophytes for organic chemicals from the general literature were only identified for PCBs (Vanier et al. 1999; Vanier and Planas 2001). Vanier and Planas (2001) reported a BSAF of 3.74 for PCBs based on an empirical relationship between sediment and macrophyte plant shoot concentrations. This BSAF value was used to estimate PCB concentrations in tissues of macrophytes throughout the UCR.

For all other COIs for which a BSAF for macrophytes was not identified, a default BSAF value of 1.0 was entered into the exposure models (see Tables D-10 and D-11). Uncertainties associated with COI BSAFs are discussed further in Section 3 of the main body of this document.

D1.7 SCREENING LEVEL RISK ESTIMATION

Risk characterization is the process of evaluating exposure and effects (USEPA 1998). For this SLERA, the hazard quotient (HQ) method was used to compare exposure estimates to the wildlife TRVs. The following equation is used to estimate hazard quotients:

$$Hazard\ Quotient\ (HQ) = \frac{Daily\ dose\ (mg/kg - day)}{NOAEL\ (mg/kg - day)} \quad \text{(Eq. 5)}$$

HQs that exceed 1.0 suggest that adverse effects are possible and the COI requires further investigation in subsequent phases of the BERA. A summary of the HQs for the wildlife receptors that were derived from exposure to COIs at maximum concentrations within each river reach as compared to the NOAEL TRV is presented in Table D-12. Tables showing the dose calculations for each receptor are presented in Attachment D-1.

The most highly exposed (i.e., highest COI doses relative to body weight) avian and mammalian species in this assessment were found to be the spotted sandpiper and little brown myotis (including exposure via incidental sediment ingestion and diets of sediment-exposed invertebrates). Copper, lead, methylmercury, and zinc were the COIs most frequently exceeding a HQ of 1 for all wildlife receptors. Beryllium (mammals only), silver, and Total LPAHs did not exceed a HQ of 1 for any receptor in any part of the UCR and therefore do not require further investigation in later phases of the BERA.

D1.8 UNCERTAINTY EVALUATION

The SLERA was conducted using various assumptions in lieu of site-specific data. These assumptions result in uncertainties associated with the results. The following is a discussion of sources of uncertainty within the SLERA and subsequent effects on the results of this analysis.

D1.8.1 Exposure Estimates

The exposure assessment was conducted with available site-specific COI chemistry data or estimated COI concentrations. Potential uncertainties are described by media type below:

- **Surface water.** Data are lacking throughout the project area. Risk estimates for COIs in the UCR were only estimated for Reach 1, while the remaining reaches do not have data to evaluate exposure. However, the contribution of risk from COI concentrations in surface water usually are negligible (approximately 1,000-fold lower) compared to dietary or sediment risks (as was the case in Reach 1). Estimating the contribution to potential risk in other reaches from surface water will require additional data. This analysis will be done during the BERA when more data on surface water COI concentrations become available.

- **Sediment chemistry.** Data for COIs in the UCR are fairly extensive. Sediment data were readily available for most COIs and within each of the river reaches such that conservative estimates of sediment exposure could be calculated. The primary source of uncertainty associated with sediment chemistry data as used in this analysis likely results from the method of pooling data for each river reach. All surface sediment samples for each reach were pooled regardless of sample water elevation, which fluctuated throughout the year. Because of the drawdown of the reservoir, sediments that are submerged part of the year may be fully exposed, partially exposed, or be very near the water surface during other parts of the year (e.g., spring drawdown). Therefore, to be conservative, all sediments were assumed to be available for wildlife exposures in this SLERA analysis. However, some samples were included in the data set that were below the minimum recorded pool level of 1,208 feet above mean sea level (ft amsl) and are unlikely to be contacted by aquatic-dependent wildlife. A more thorough assessment of sediment data will be conducted in the BERA with regard to water elevation and potential exposure of aquatic-dependent wildlife.

- **Fish tissue chemistry.** Tissue data were available for several fish species within several reaches of the UCR. The collection of fish tissues was not as extensive as the sediment sample collection, and therefore the fish tissue data may not fully describe the variability of COI concentrations throughout the entire UCR. The fish tissue composites were made up of one size range of fish (13 to 22 inches) and did not include smaller forage fish (e.g., sculpin). In addition, the fish tissue data were pooled regardless of species. Not all wildlife receptors consume all fish species and thus estimated exposure concentrations will likely vary if species-specific diets are considered. Therefore, the fish tissue data may not adequately characterize the COI concentrations in smaller fish or other species of fish or represent the diets of individual wildlife receptors. It is possible that the concentrations in this analysis overestimate predicted risks if the receptor typically consumes smaller sized fish, because bioaccumulative COIs (e.g., MeHg, PCBs) may increase with increasing fish size or age (Fischnaller et al. 2003; Stow et al. 1997).

- **Benthic invertebrate tissue chemistry**. Representative invertebrate tissue data were not available at the time of this assessment; therefore, tissue COI concentrations were estimated from sediment concentrations using conservative BSAFs. However, the BSAFs were derived from literature sources that likely differed in COI concentrations and physiochemical characteristics of the sediments than what is present at the UCR. Therefore, because of differences in bioavailability and uptake rates, the estimated invertebrate concentrations may be under or overpredicted depending upon how UCR site conditions vary from those found in the literature sources. In addition, the current assessment did not distinguish between aquatic and emergent (i.e., flying insects) life stages that may differ in lipid content and COI accumulation. Conservative upper estimates (90th percentile) of the BSAFs were incorporated into the assessment, which generally overestimate tissue concentrations. However, this would need to be verified through collection of site-specific invertebrate tissue data.

- **Aquatic macrophyte tissue chemistry.** No tissue chemistry data for aquatic plants were available at the time of this SLERA; therefore, estimates of COI concentrations were calculated using BSAFs and site sediment concentrations. Two primary literature sources were used to develop BSAFs for metals/metalloids and organics from sediments to aquatic plants (Jackson et al. 1991; Vanier and Planas 2001). The authors of these studies examined the accumulation of COIs from sediments into the shoots of emergent vascular rooted macrophytes, including similar species as found in the UCR (e.g., *Potamogeton* sp., *Elodea* sp., Eurasian milfoil). For metals/metalloids, the regression equation that relates sediment to plant concentrations presented by Jackson et al. (1991) was used to estimate plant concentrations in the UCR. The regression equation was used for all metals/metalloids in this assessment; however, Jackson et al. (1991) did not have data for Sb, Be, Hg, Ag, V, and U. Given the large number of elements examined by Jackson et al. (1991), it was assumed that the unexamined elements followed the same relationship. However, it is uncertain how accurate the regression equation is for these metals. Jackson et al. (1991) reported that the regression model was able to account for 75 to 96 percent of the variability in plant concentrations as compared to sediment concentrations. The remaining variability may be dependent on physiochemical characteristics (e.g., organic matter, pH) that affect bioavailability (Jackson et al. 1991; Jackson 1998).

Concentrations of organic chemicals (except for PCBs) in aquatic plants were estimated using a default BSAF of 1.0 due to the lack of literature data for these COIs. The estimated risks for organics using a BSAF of 1.0 were typically less than a HQ of 1.0 (including exposure from water, sediment, or other dietary pathways). To determine the sensitivity of the BSAF, a re-analysis of estimated risks was conducted for herbivorous wildlife assuming a BSAF of 10.0, which also indicated that all HQs were less than 1.0, even considering the other exposure pathways. Therefore, the default value of 1.0 for organics appears to be reasonable for the SLERA.

Finally, the BSAFs used in this SLERA are based on accumulation and translocation of COIs from sediments to plant shoots. Not all COIs are equally translocated from the roots to the shoots, and some accumulate to higher levels in the roots of aquatic plants (Vanier et al. 1999; Baldantoni et al. 2004). Therefore, the current aquatic plant tissue concentrations are likely underestimated for root tissues, and risk estimates may be underestimated for receptors that feed predominantly on the roots of aquatic plants (e.g., muskrat and tundra swan).

D1.8.2 Effects Evaluation

The primary sources of uncertainty in the effects evaluation are related to the availability of toxicity data. The majority of the available TRVs used was from the EPA Eco-SSL documents. The EPA conducts a rigorous process to compile and evaluate toxicity data for developing TRVs. Chemicals with NOAELs and LOAELs available from Eco-SSL documents are considered to be conservative and of adequate quality for use in the SLERA. COIs without Eco-SSL documents have TRVs developed from the general literature that have not undergone as rigorous a review as conducted by the EPA. Therefore, TRVs for barium, methylmercury, dioxins/furans, total HPAHs, total LPAHs, and total PCBs may be less reliable than those for other COIs. In addition, TRVs were not available for some COIs in this assessment (see Table D-1); therefore, the potential risks from these COIs to certain receptors cannot be evaluated until additional toxicity data become available.

For arsenic, chromium, and mercury, it was assumed that the estimated media (biotic and abiotic) concentrations were all relative to one chemical species (e.g., inorganic arsenic, chromium^{+3}, and methylmercury). Inorganic arsenic and methylmercury are more toxic than other forms and therefore the risk analysis can be considered conservative (Agency for Toxic Substances and Disease Registry [ATSDR] 2007, 1999). Chromium^{+3} is likely the more common phase found in sediments and tissues and was therefore assumed to be the predominant form in all phases (ATSDR 2000). Additional speciation analyses may decrease the exposure estimates for these species and reduce uncertainty in this analysis.

In addition, the COIs examined in this SLERA comprise an abbreviated list of all potential COIs present in the UCR. Additional analyses may be necessary for other COIs (e.g., other metals/metalloids, pesticides, polybrominated diphenyl ethers [PBDEs]) not evaluated herein.

D1.9 SCIENTIFIC MANAGEMENT DECISION POINT (SMDP)

The results of the aquatic-dependent wildlife SLERA are summarized in Table D-12. The COIs that can be confidently screened out from further analysis of risks to aquatic-dependent wildlife are:

- Beryllium (mammals only)
- Silver
- Total LPAHs.

COIs that exceed a HQ of 1.0 in at least one area for at least one receptor include the following:

- Antimony
- Arsenic
- Barium
- Cadmium
- Chromium^{+3}
- Cobalt
- Copper
- Lead
- Manganese
- Mercury (methyl)
- Selenium
- Nickel
- Vanadium
- Zinc
- Dioxins/furans
- Total HPAHs
- Total DDTs
- Total PCBs.

The COIs that exceeded a HQ of 1.0 and those that did not have a TRV identified will require further evaluation in the BERA.

D1.10 REFERENCES

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TABLES

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Table D-1. Toxicity Reference Values for Mammalian and Avian Receptors

Chemical of Interest	Mammalian TRV NOAEL / LOAEL (mg/kg-bw/day)	Source	Avian TRV NOAEL / LOAEL (mg/kg-bw/day)	Source
Metals/Metalloids				
Antimony	0.059 / 0.59	USEPA (2005c)	None available	-
Arsenic	1.04 / 1.66	USEPA (2005d)	2.24 / 40	NOAEL (USEPA 2005d), LOAEL (Stanley et al. 1994)
Barium	51.8 / 121	USEPA (2005e)	208.3 / 416.5	Johnson et al. (1960)
Beryllium	0.532 / 0.63	USEPA (2005f)	None available	-
Cadmium	0.77 / 0.909	USEPA (2005g)	1.47 / 2.37	USEPA (2005g)
Chromium $^{+3}$	2.4 / 2.82	USEPA (2008)	2.66 / 2.8	USEPA (2008)
Cobalt	7.33 / 10.9	USEPA (2005h)	7.61 / 7.8	USEPA (2005h)
Copper	5.6 / 6.79	USEPA (2007a)	4.05 / 4.68	USEPA (2007a)
Lead	4.7 / 5.0	USEPA (2005i)	1.63 / 1.94	USEPA (2005i)
Manganese	51.5 / 65	USEPA (2007c)	179 / 348	USEPA (2007c)
Mercury	Based on MeHg	-	Based on MeHg	-
Methylmercury	0.0017 / 0.0084	Verschuuren et al. (1976)	0.018 / 0.091	Spalding et al. (2000)
Nickel	1.7 / 2.71	USEPA (2007d)	6.71 / 11.5	USEPA (2007d)
Selenium	0.143 / 0.145	USEPA (2007f)	0.29 / 0.368	USEPA (2007f)
Silver	6.02[a] / 60.2	USEPA (2006b)	2.02[a] / 20.2	USEPA (2006b)
Vanadium	4.16 / 5.11	USEPA (2005j)	0.344 / 0.413	USEPA (2005j)
Zinc	75.4 / 75.9	USEPA (2007g)	66.1 / 66.5	USEPA (2007g)
Organics				
Dioxins/Furans	0.000001[a] / 0.00001	Murray et al. (1979)	0.000014 / 0.0001	Nosek et al. (1992)
Total DDTs	0.147 / 0.274	USEPA (2007b)	0.227 / 0.281	USEPA (2007b)
Total HPAHs	0.615 / 3.07	USEPA (2007e)	0.14 [a] / 1.4	Hough et al. (1993)
Total LPAHs	65.6 / 110	USEPA (2007e)	7.7 / 31.5	Klasing (2007)
Total PCBs	0.0089 [a] / 0.089	Brunstrom et al. (2001)	0.29 / 0.58	Britton and Huston (1973)

Notes:

[a] NOAEL extrapolated from a LOAEL using an uncertainty factor of 10.

TRV – Toxicity reference value

NOAEL – No observed adverse effect level

LOAEL – Lowest observed adverse effect level (reported only when a NOAEL was not available).

mg/kg-bw/d - Milligram per kilogram body weight per day

Table D-2. Toxicity Equivalency Factors for Dioxins, Furans, and Dioxin-like Polychlorinated Biphenyls

		World Health Organization Toxicity Equivalency Factors (TEFs)	
Group	Compound	Birds [a]	Mammals [b]
Tetrachloro-dibenzodioxins (TCDDs)	2,3,7,8-TCDD	1	1
	1,2,3,7,8-PentaCDD	1	1
	1,2,3,4,7,8-HexaCDD	0.05	0.1
	1,2,3,6,7,8-HexaCDD	0.01	0.1
	1,2,3,7,8,9-HexaCDD	0.1	0.1
	1,2,3,4,6,7,8-HeptaCDD	0.001	0.01
	OCDD	0.0001	0.0003
Tetrachloro-dibenzofurans (TCDF)	2,3,7,8-TCDF	1	0.1
	1,2,3,7,8-PentaCDF	0.1	0.03
	2,3,4,7,8-PentaCDF	1	0.3
	1,2,3,4,7,8-HexaCDF	0.1	0.1
	1,2,3,6,7,8-HexaCDF	0.1	0.1
	1,2,3,7,8,9-HexaCDF	0.1	0.1
	2,3,4,6,7,8-HexaCDF	0.1	0.1
	1,2,3,4,6,7,8-HeptaCDF	0.01	0.01
	1,2,3,6,7,8,9-HeptaCDF	0.01	0.01
	OCDF	0.0001	0.0003
Dioxin-like Polychlorinated Biphenyls (PCBs)	PCB-77 (3,3',4,4'-tetraCB)	0.05	0.0001
	PCB-81 (3,4,4',5-tetraCB)	0.1	0.0003
	PCB-126 (3,3',4,4',5-pentaCB)	0.1	0.1
	PCB-169 (3,3',4,4',5,5'-hexaCB)	0.001	0.03
	PCB-105 (2,3,3',4,4'-pentaCB)	0.0001	0.00003
	PCB-114 (2,3,4,4',5-pentaCB)	0.0001	0.00003
	PCB-118 (2,3',4,4',5-pentaCB)	0.00001	0.00003
	PCB-123 (2',3,4,4',5-pentaCB)	0.00001	0.00003
	PCB-156 (2,3,3',4,4',5-hexaCB)	0.0001	0.00003
	PCB-157 (2,3,3',4,4',5'-hexaCB)	0.0001	0.00003
	PCB-167 (2,3',4,4',5,5'-hexaCB)	0.00001	0.00003
	PCB-189 (2,3,3',4,4',5,5'-heptaCB)	0.00001	0.00003

Notes:

[a] TEFs from Van den Berg et al. (1998)

[b] TEFs from Van den Berg et al. (2006)

Table D-3. Exposure Factors for Aquatic-Dependent Wildlife

			Area Use Factor	Bioavailable Fraction (ABS)	Body Weight		Food Ingestion Rate [a]		Water Ingestion Rate [a]	Sediment/Soil Ingestion Rate [b]				Aquatic Prey Items (% of overall diet) [c]				Terrestrial Prey Items (% of overall diet) [c]				
Group	Receptor	Feeding Guild	(unitless)	(unitless)	(kg)	Reference	(kg/d-dry)	(kg/d-wet)	(L/d)	(% of FIR)	Reference	(kg/d-dry)	(kg/d-wet)	Fish	Amphibians	Aquatic Invertebrates (including mussels)	Aquatic Plants (macrophytes)	Birds	Mammals	Reptiles	Terrestrial Plants	Terrestrial Invertebrates
Birds	Great Blue Heron	Piscivore	1.0	1.0	2.39	Average of adult males and females, Hartman (1961) as cited in USEPA (1993)	0.1475	0.5295	0.1058	8.4%	Generic model for waterfowl from Beyer et al. 2008	0.0124	0.0445	95%	0%	5%	0%	0%	0%	0%	0%	0%
Birds	Osprey	Piscivore	1.0	1.0	1.486	Average of adult males and females, Brown & Amadon (1968) as cited in USEPA (1993)	0.1076	0.3864	0.0769	2.0%	Assumed comparable to or less than Mallard based from Beyer et al. as cited in USEPA (1993)	0.0022	0.0077	100%	0%	0%	0%	0%	0%	0%	0%	0%
Birds	Bald Eagle	Piscivore/Carnivore	1.0	1.0	4.684	Average of adult males and females, Dunning (1984) as cited in USEPA (1993)	0.2304	0.8272	0.1660	2.0%	Assumed comparable to or less than Mallard based from Beyer et al. as cited in USEPA (1993)	0.0046	0.0165	27%	0%	0%	0%	50%	23%	0%	0%	0%
Birds	Belted Kingfisher	Piscivore	1.0	1.0	0.148	Average of adult males and females, Dunning (1984) as cited in USEPA (1993)	0.0233	0.0837	0.0164	2.0%	Assumed comparable to or less than Mallard based from Beyer et al. as cited in USEPA (1993)	0.0005	0.0017	59%	0%	41%	0%	0%	0%	0%	0%	0%
Birds	Canada Goose	Riparian Herbivore	1.0	1.0	2.62	Average of adult males and females, Grieb (1970) as cited in USEPA (1993)	0.1401	0.4679	0.1125	8.2%	Canada goose based on Beyer et al. as cited in USEPA (1993)	0.0115	0.0384	0%	0%	0%	100%	0%	0%	0%	0%	0%
Birds	Tundra Swan	Riparian Herbivore	1.0	1.0	6.65	Average of adult males and females, Dunning (1984) as cited in USEPA (1993)	0.2651	0.8889	0.2100	8.4%	Beyer et al. 2008	0.0223	0.0747	0%	0%	0%	99%	0%	0%	0%	0%	1%
Birds	Mallard	Riparian Omnivore	1.0	1.0	1.134	Average of adult males and females, Nelson & Martin (1953) as cited in USEPA (1993)	0.0551	0.1723	0.0642	2.0%	Mallard based on Beyer et al. as cited in USEPA (1993)	0.0011	0.0034	0%	0%	50%	50%	0%	0%	0%	0%	0%
Birds	Lesser Scaup	Riparian Omnivore	1.0	1.0	0.82	Average of adult males and females, Nelson & Martin (1953) as cited in USEPA (1993)	0.0450	0.1406	0.0517	4.7%	Beyer et al. 2008	0.0021	0.0066	44%	0%	28%	28%	0%	0%	0%	0%	0%
Birds	Spotted Sandpiper	Riparian Invertivore	1.0	1.0	0.0425	Average of adult males and females, Maxson & Oring (1980) as cited in USEPA (1993)	0.0093	0.0342	0.0071	18.0%	Based on Western Sandpiper from Beyer et al. as cited in USEPA (1993)	0.0017	0.006	0%	0%	100%	0%	0%	0%	0%	0%	0%
Birds	Swallow	Riparian Insectivore	1.0	1.0	0.0201	Average of adult males and females, Dunning (1984) as cited in USEPA (1993)	0.0045	0.0135	0.0043	2.0%	Assumed comparable to or less than Mallard based from Beyer et al. as cited in USEPA (1993)	0.0001	0.0003	0%	0%	50%	0%	0%	0%	0%	0%	50%
Mammals	Mink	Piscivore	1.0	1.0	0.852	Average of adult males and females (summer & fall), Mitchell (1961) as cited in USEPA (1993)	0.0425	0.1433	0.0857	5.0%	Assumed similar to other mammals based on Beyer et al. as cited in USEPA (1993)	0.0021	0.0072	73%	2%	7%	0%	4%	4%	2%	9%	0%
Mammals	River Otter	Piscivore	1.0	1.0	8.55	Average of adult males and females, Melquist & Hornocker (1983) as cited in USEPA (1993)	0.2910	1.0127	0.6830	5.0%	Assumed similar to other mammals based on Beyer et al. as cited in USEPA (1993)	0.0146	0.0506	80%	0%	10%	0%	3%	3%	0%	0%	5%

Table D-3. Exposure Factors for Aquatic-Dependent Wildlife

Group	Receptor	Feeding Guild	Area Use Factor	Bioavailable Fraction (ABS)	Body Weight		Food Ingestion Rate [a]		Water Ingestion Rate [a]	Sediment/Soil Ingestion Rate [b]				Aquatic Prey Items (% of overall diet) [c]				Terrestrial Prey Items (% of overall diet) [c]				
			(unitless)	(unitless)	(kg)	Reference	(kg/d-dry)	(kg/d-wet)	(L/d)	(% of FIR)	Reference	(kg/d-dry)	(kg/d-wet)	Fish	Amphibians	Aquatic Invertebrates (including mussels)	Aquatic Plants (macrophytes)	Birds	Mammals	Reptiles	Terrestrial Plants	Terrestrial Invertebrates
Mammals	Little Brown Bat	Riparian/Terrestrial Insectivore	1.0	1.0	0.0075	Gould (1955) as cited in Sample and Suter 1994	0.0014	0.0045	0.0012	2.0%	Assumed lowest mammalian rate from Beyer et al. as cited in USEPA (1993)	0.00003	0.0001	0%	0%	50%	0%	0%	0%	0%	0%	50%
Mammals	Muskrat	Riparian/Terrestrial Omnivore	1.0	1.0	0.873	Average of adult males and females, Reeves & Williams (1956) as cited in USEPA (1993)	0.0604	0.1832	0.0876	5.0%	Assumed similar to other mammals based on Beyer et al. as cited in USEPA (1993)	0.0030	0.0092	0%	0%	0%	100%	0%	0%	0%	0%	0%
Mammals	Raccoon	Riparian/Terrestrial Omnivore	1.0	1.0	6.9	Average of adult males and females, Sanderson (1984) as cited in USEPA (1993)	0.1731	0.5392	0.5631	9.4%	Based on Beyer et al. as cited in USEPA (1993)	0.0163	0.0507	2%	0%	19%	0%	7%	7%	0%	38%	27%

Notes:

[a] Food and water ingestion rates calculated from regression equations (Nagy 2001; Calder and Braun 1983) presented in Table D-4

[b] Sediment ingestion rates calculated as a percentage of the food ingestion rate (FIR x % sediment ingestion).

[c] Diets assumed from information presented in USEPA (1993) and Sample and Suter (1994).

kg - Kilograms
kg/d-dry - Kilograms per day dry weight
kg/d-wet - Kilograms per day wet weight
L/d - Liters per day
% of FIR - Percent of food ingestion rate
n/a - Not available

Table D-4. Food and Water Ingestion Rate Estimation Formulas

Receptor Group (Nagy 2001)	SLERA Receptors	Food Ingestion Rates [a]	Water Ingestion Rates [b]
All Birds	Canada Goose, Tundra Swan	FIR (g/d-dry) = $0.638*(BW[g])^{0.685}$ FIR (g/day-wet) = $2.065*(BW[g])^{0.689}$	WIR (L/day) = $0.059*(BW[kg])^{0.67}$ (used for all avian receptors)
Charadriiformes (shore birds)	Spotted Sandpiper	FIR (g/d-dry) = $0.522*(BW[g])^{0.769}$ FIR (g/day-wet) = $1.914*(BW[g])^{0.769}$	Not available
Carniverous Birds	Bald Eagle, Belted Kingfisher, Great Blue Heron, Osprey	FIR (g/d-dry) = $0.849*(BW[g])^{0.663}$ FIR (g/day-wet) = $3.048*(BW[g])^{0.663}$	Not available
Omnivorous Birds	Mallard, Lesser Scaup	FIR (g/d-dry) = $0.670*(BW[g])^{0.627}$ FIR (g/day-wet) = $2.094*(BW[g])^{0.627}$	Not available
Insectivorous Birds	Swallow	FIR (g/d-dry) = $0.540*(BW[g])^{0.705}$ FIR (g/day-wet) = $1.633*(BW[g])^{0.705}$	Not available
All Mammals		FIR (g/day-dry) = $0.323*(BW[g])^{0.744}$ FIR (g/day-wet) = $0.794*(BW[g])^{0.773}$	WIR (L/day) = $0.099*(BW[kg])^{0.90}$ (used for all mammalian receptors)
Carnivorous Mammals	Mink, River Otter	FIR (g/day-dry) = $0.153*(BW[g])^{0.834}$ FIR (g/day-wet) = $0.469*(BW[g])^{0.848}$	Not available
Herbivorous Mammals	Muskrat	FIR (g/day-dry) = $0.859*(BW[g])^{0.628}$ FIR (g/day-wet) = $2.606*(BW[g])^{0.628}$	Not available
Omnivorous Mammals	Raccoon	FIR (g/day-dry) = $0.432*(BW[g])^{0.678}$ FIR (g/day-wet) = $1.346*(BW[g])^{0.678}$	Not available
Chiroptera (Bats)	Little Brown Bat	FIR (g/day-dry) = $0.365*(BW[g])^{0.671}$ FIR (g/day-wet) = $1.219*(BW[g])^{0.652}$	Not available

Notes:

[a] Food ingestion rates (FIRs) estimated from equations reported by Nagy (2001).

[b] Water ingestion rates (WIRs) estimated from equations reported by Calder and Braun (1983) as reported in USEPA (1993).

BW = Body weight (kilograms [kg])

FIR = Food ingestion rate (kg/day)

WIR = Water ingestion rate (Liters [L] /day)

g - grams

kg - kilograms

Table D-5. Surface Water Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Arsenic (Tot. Rec.)	ug/L	1	38	0.19	0.86	0.43	0.40	0.01	0.12
Cadmium (Tot. Rec.)	ug/L	1	26	0.05	0.24	0.06	0.05	0.00	0.04
Chromium (Tot. Rec.)	ug/L	1	26	0.25	0.83	0.27	0.25	0.01	0.11
Copper (Tot. Rec.)	ug/L	1	26	0.49	4.58	0.91	0.72	0.62	0.79
Lead (Tot. Rec.)	ug/L	1	26	0.12	1.96	0.37	0.24	0.15	0.39
Mercury (Tot. Rec.)	ug/L	1	26	0.001	0.0022	0.0012	0.001	0	0.0004
Nickel (Tot. Rec.)	ug/L	1	26	0.46	0.95	0.68	0.66	0.02	0.14
Silver (Tot. Rec.)	ug/L	1	26	0.05	0.05	0.05	0.05	0	0
Zinc (Tot. Rec.)	ug/L	1	26	2.5	45	4.68	2.50	70.27	8.38

Notes:

N - Sample Size

SD - Standard Deviation

Tot. Rec. - Total Recoverable Concentration

ug/L - micrograms per liter

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
1	RM744X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM744A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM744A2(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM743A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM743A2(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM742B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
1	RM742B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
1	RM742B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
1	RM742A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM742A2(X5)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM741X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM741A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM740X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM740A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM739X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM739A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM738X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM738A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM737X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM737X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM737A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM736X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM736A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM736T1	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
1	RM735B1c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B1L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B1R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B2c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B2L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B2R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B3c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B3L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735B3R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
1	RM735BSF	Size Fractioned Sample (Bulk)	0 to 0.5	feet	USEPA (2006a)
1	RM735X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM735X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM734A1	Bioassay/Porewater Sample	0 to 0.5	feet	USEPA (2006a)
1	RM734X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM733X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM733X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM733A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM732X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM732X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM732X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM731X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM731X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM730A1	Bioassay/Porewater Sample	0 to 0.5	feet	USEPA (2006a)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
1	RM730X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM730T1	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
1	RM729B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
1	RM729B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
1	RM729B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
1	RM729X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM729X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
1	RM729A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
1	RM729T2	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
1	CS040	Columbia River Sediment	0 to 2	inches	USEPA (2003)
1	CS041	Columbia River Sediment	0 to 3	inches	USEPA (2003)
1	CS042	Columbia River Sediment	0 to 2	inches	USEPA (2003)
1	CS043	Columbia River Sediment	0 to 2	inches	USEPA (2003)
1	CS044	Columbia River Sediment	0 to 4	inches	USEPA (2003)
1	CS045	Columbia River Sediment	0 to 3	inches	USEPA (2003)
1	CS046	Columbia River Sediment	0 to 1	inches	USEPA (2003)
1	CS047	Columbia River Sediment	0 to 1	inches	USEPA (2003)
1	CS048	Columbia River Sediment	0 to 3	inches	USEPA (2003)
1	CS049	Columbia River Sediment	0 to 2	inches	USEPA (2003)
1	CS050	Columbia River Sediment	0 to 2	inches	USEPA (2003)
1	CS051	Columbia River Sediment	0 to 4	inches	USEPA (2003)
1	CS052	Columbia River Sediment	0 to 3	inches	USEPA (2003)
1	LR-7	Composite	Composite	centimeters	Paulson et al. (2006)
1	LR-7R	Composite	Composite	centimeters	Paulson et al. (2006)
1	PW-7E	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
1	PW-7F	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
1	1198043	COLUMBIA RIVER NEAR INTL BOUNDARY	0 to 10	inches	Ecology (2001)
1	1198042	COLUMBIA RIVER @ AUXILIARY GAGE	0 to 10	inches	Ecology (2001)
1	1198041	COLUMBIA RIVER @ GOODEVE CREEK	0 to 10	inches	Ecology (2001)
2	RM728X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM728X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM727X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM727A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
2	RM726X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM726X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM726X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM725X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM725X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM724X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM724A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
2	RM724A2(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
2	RM723X4	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM723X5	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM723A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
2	RM723A2(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
2	RM722X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM722X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
2	RM722X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM721X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM721X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM721X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM718B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
2	RM718B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
2	RM718B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
2	RM718X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM718X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM718X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM715X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM715X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM713X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM713A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
2	RM710X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM710X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	RM710X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
2	CS031	Columbia River Sediment	0 to 2	inches	USEPA (2003)
2	CS032	Columbia River Sediment	0 to 1	inches	USEPA (2003)
2	CS033	Columbia River Sediment	0 to 5	inches	USEPA (2003)
2	CS034	Columbia River Sediment	0 to 1	inches	USEPA (2003)
2	CS035	Columbia River Sediment	0 to 0.25	inches	USEPA (2003)
2	CS036	Columbia River Sediment	0 to 2	inches	USEPA (2003)
2	CS037	Columbia River Sediment	0 to 2	inches	USEPA (2003)
2	CS038	Columbia River Sediment	0 to 3	inches	USEPA (2003)
2	CS039	Columbia River Sediment	0 to 4	inches	USEPA (2003)
2	LR-6	Composite	Composite	centimeters	Paulson et al. (2006)
2	LR-6A	0-1 cm	0-1 cm	centimeters	Paulson et al. (2006)
3	RM708B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
3	RM708B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
3	RM708B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
3	RM708C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
3	RM708C1	Core Sample	0 to 1	feet	USEPA (2006a)
3	RM708X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM708X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM708A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
3	RM707X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM707X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM707X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM706X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM706X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM706X4	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM706X5	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM706X6	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM706A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
3	RM706A2(X7)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
3	RM706T1	Tributary Sample	0 to 0.5	feet	USEPA (2006a)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
3	RM706T2	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
3	RM705X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM705X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM705X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM704C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
3	RM704C1	Core Sample	0 to 1	feet	USEPA (2006a)
3	RM704X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM704X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM704A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
3	RM701X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM701X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM701X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM700B1c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B1L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B1R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B2c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B2L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B2R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B3c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B3L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700B3R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
3	RM700BSF	Size Fractioned Sample (Bulk)	0 to 0.5	feet	USEPA (2006a)
3	RM699T1	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
3	RM698X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM698X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
3	RM698A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
3	CS019	Columbia River Sediment	0 to 5	inches	USEPA (2003)
3	CS020	Columbia River Sediment	0 to 4	inches	USEPA (2003)
3	CS021	Columbia River Sediment	0 to 4	inches	USEPA (2003)
3	CS022	Columbia River Sediment	0 to 4	inches	USEPA (2003)
3	CS023	Columbia River Sediment	0 to 0.25	inches	USEPA (2003)
3	CS025	Columbia River Sediment	0 to 3	inches	USEPA (2003)
3	CS026	Columbia River Sediment	0 to 3	inches	USEPA (2003)
3	CS027	Columbia River Sediment	0 to 4	inches	USEPA (2003)
3	CS028	Columbia River Sediment	0 to 2	inches	USEPA (2003)
3	CS029	Columbia River Sediment	0 to 2	inches	USEPA (2003)
3	CS030	Columbia River Sediment	0 to 1	inches	USEPA (2003)
3	LR-5	Composite	Composite	centimeters	Paulson et al. (2006)
3	PW-5A	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
3	PW-5B	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
3	PW-5D	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
3	TM-5AINC	0-2 cm spent tumbled core	0-2 cm spent tumbled core	centimeters	Paulson et al. (2006)
3	1198044	KETTLE RIVER	0 to 5	inches	Ecology (2001)
3	CCR-705	Sediment Cores	0-2	centimeters	Cox et al. (2005)
3	CCR-705	Surface Sediment	1-2	centimeters	Cox et al. (2005)
4a	RM692A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4a	RM689A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
4a	RM686A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4a	RM680A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4a	RM678A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4a	RM677A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4a	RM676A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4a	RM695X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM695X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM695X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM693X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM692X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM689X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM689X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM686X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM686X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM683X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM683X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM683X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM681X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM680X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM679X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM679X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM679X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM678X7	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM678X6	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM678X5	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM678X4	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM678X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM678X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM677X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM677X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM676X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM676X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM692C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM692C1	Core Sample	0 to 1	feet	USEPA (2006a)
4a	RM676C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM676C1	Core Sample	0 to 1	feet	USEPA (2006a)
4a	RM687A1	Bioassay/Porewater Sample	0 to 0.5	feet	USEPA (2006a)
4a	RM697B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4a	RM697B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4a	RM697B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4a	RM690B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4a	RM690B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4a	RM690B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4a	CS018	Columbia River Sediment	0 to 6.5	inches	USEPA (2003)
4a	CS017	Columbia River Sediment	0 to 6	inches	USEPA (2003)
4a	CS016	Columbia River Sediment	0 to 1	inches	USEPA (2003)
4a	CS015	Columbia River Sediment	0 to 8	inches	USEPA (2003)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
4a	CS014	Columbia River Sediment	0 to 4	inches	USEPA (2003)
4a	CS013	Columbia River Sediment	0 to 4	inches	USEPA (2003)
4a	CS012	Columbia River Sediment	0 to 3	inches	USEPA (2003)
4a	CS011	Columbia River Sediment	0 to 2	inches	USEPA (2003)
4a	CS010	Columbia River Sediment	0 to 0.5	inches	USEPA (2003)
4a	CS009	Columbia River Sediment	0 to 7	inches	USEPA (2003)
4a	CS008	Columbia River Sediment	0 to 4	inches	USEPA (2003)
4a	CS007	Columbia River Sediment	0 to 2	inches	USEPA (2003)
4a	CS006	Columbia River Sediment	0 to 4	inches	USEPA (2003)
4a	CS005	Columbia River Sediment	0 to 4	inches	USEPA (2003)
4a	LR-4	Composite	Composite	centimeters	Paulson et al. (2006)
4a	TM-4AINC	0-2 cm spent tumbled core	0-2 cm spent tumbled core	centimeters	Paulson et al. (2006)
4a	PW-4F	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
4a	PW-4A	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
4a	CCR-692	Surface Sediment	1-2	centimeters	Cox et al. (2005)
4a	CCR-692	Sediment Cores	0-2	centimeters	Cox et al. (2005)
4b	RM675B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM675B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM675B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	CS004	Columbia River Sediment	0 to 4	inches	USEPA (2003)
4b	RM661A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4b	RM658A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4b	RM644A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4b	RM642A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4b	RM641A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4b	RM640A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
4b	RM673X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM673X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM673X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM670X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM670X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM670X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM667X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM667X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM667X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM664X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM664X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM664X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM661X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM661X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM658X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM658X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM655X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM655X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM655X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM652X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM652X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
4b	RM652X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM649X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM649X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM649X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM646X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM646X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM646X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM644X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM644X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM643X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM643X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM643X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM642X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM642X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM642X4	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM642X5	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM642X6	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM642X7	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM641X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM641X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM640X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM640X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM642BSF	Size Fractioned Sample (Bulk)	0 to 0.5	feet	USEPA (2006a)
4b	RM661C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM661C1	Core Sample	0 to 1	feet	USEPA (2006a)
4b	RM644C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
4b	RM644C1	Core Sample	0 to 1	feet	USEPA (2006a)
4b	RM673B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM673B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM673B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM658B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM658B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM658B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
4b	RM642B1c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B1L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B1R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B2c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B2L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B2R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B3c	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B3L	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	RM642B3R	Beach Subsample	0 to 0.5	feet	USEPA (2006a)
4b	LR-3	Composite	Composite	centimeters	Paulson et al. (2006)
4b	LR-3A	0-1 cm	0-1 cm	centimeters	Paulson et al. (2006)
4b	1198046	LAKE ROOSEVELT @ CASTLE ROCK	0 to 10	inches	Ecology (2001)
4b	CCR-668	Surface Sediment	1-2	centimeters	Cox et al. (2005)
4b	CCR-668	Sediment Cores	0-5	centimeters	Cox et al. (2005)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
4b	CCR-643	Sediment Cores	0-3	centimeters	Cox et al. (2005)
5	RM639T1	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
5	RM639T2	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
5	RM634A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
5	RM628A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
5	RM622A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
5	RM637X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637X4	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637X5	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637X6	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637X7	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM634X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM634X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM631X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM631X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM631X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM628X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM628X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM625X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM625X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM625X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM622X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM622X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM619X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM619X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM619X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
5	RM637C1	Core Sample	0 to 1	feet	USEPA (2006a)
5	RM622C1	Core Sample	0 to 0.5	feet	USEPA (2006a)
5	RM622C1	Core Sample	0 to 1	feet	USEPA (2006a)
5	RM633B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
5	RM633B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
5	RM633B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
5	LR-2	Composite	Composite	centimeters	Paulson et al. (2006)
5	LR-2A	0-1 cm	0-1 cm	centimeters	Paulson et al. (2006)
5	1198047	LAKE ROOSEVELT @ WHITESTONE CREEK	0 to 10	inches	Ecology (2001)
5	CCR-624	Sediment Cores	0-3	centimeters	Cox et al. (2005)
6	RM615B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
6	RM615B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
6	RM615B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
6	RM613X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM613X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM613X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM610X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM610X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)

Table D-6. Sediment Samples Used in the Exposure Assessment Pooled by River Reach

River Reach	Sample ID	Sample Type	Depth Interval	Depth units	Study Reference
6	RM610X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM607X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM607X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM607X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM606X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM606X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM606A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
6	RM605C1	Core Sample	0 to 1	feet	USEPA (2006a)
6	RM605X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM605X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM605X4	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM605X5	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM605X6	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM605X7	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM605X9	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM605A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
6	RM605A2(X8)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
6	RM604X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM604X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM604X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM603X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM603X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM603A1(X1)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)
6	RM600B1	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
6	RM600B2	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
6	RM600B3	Beach Subsample Composite	0 to 0.5	feet	USEPA (2006a)
6	RM600X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM600X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM600X3	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	LR-1	Composite	Composite	centimeters	Paulson et al. (2006)
6	PW-1B	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
6	PW-1C	0-2 cm spent PW	0-2 cm spent PW	centimeters	Paulson et al. (2006)
6	SA-8	Composite	Composite	centimeters	Paulson et al. (2006)
6	SA-8A	0-1 cm	0-1 cm	centimeters	Paulson et al. (2006)
6	1198045	SANPOIL RIVER	0 to 10	inches	Ecology (2001)
6	1198049	LAKE ROOSEVELT @ SWAWILLA BASIN	0 to 10	inches	Ecology (2001)
6	1198050	LAKE ROOSEVELT BEHIND GRAND COULEE DAM	0 to 10	inches	Ecology (2001)
6	RM616T1	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
6	RM616T2	Tributary Sample	0 to 0.5	feet	USEPA (2006a)
6	RM616X1	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM616X2	Transect Sample	0 to 0.5	feet	USEPA (2006a)
6	RM616A1(X3)	Transect/Bioassay/Porewater	0 to 0.5	feet	USEPA (2006a)

Table D-7. Sediment Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Aluminum	mg/kg-dry	1	73	3080	44600	12665	9810	86757595	9314
Antimony	mg/kg-dry	1	70	1.80	174.00	33.75	23.65	1161.00	34.07
Arsenic	mg/kg-dry	1	76	0.65	74.40	15.85	10.85	168.90	13.00
Barium	mg/kg-dry	1	73	94.60	2440.00	924.00	681.00	436884.00	661.00
Beryllium	mg/kg-dry	1	73	0.27	1.80	0.85	0.73	0.15	0.38
Cadmium	mg/kg-dry	1	76	0.03	18.00	2.26	1.65	8.27	2.88
Calcium	mg/kg-dry	1	73	5310	85500	39836	36300	455300000	21338
Chromium	mg/kg-dry	1	73	12.50	173.00	65.49	45.20	2269.00	47.63
Cobalt	mg/kg-dry	1	73	4.70	85.70	28.18	20.00	471.10	21.71
Copper	mg/kg-dry	1	76	23.40	3300.00	1125.00	761.00	913582.00	955.80
Iron	mg/kg-dry	1	73	12000	254000	100725	80800	5556000000	74541
Lead	mg/kg-dry	1	76	32.60	2760.00	316.60	214.50	135439.00	368.00
Magnesium	mg/kg-dry	1	73	3960	26600	8794	7440	20567472	4535
Manganese	mg/kg-dry	1	73	163.00	4920.00	1889.00	1630.00	2013585.00	1419.00
Mercury	mg/kg-dry	1	71	0.01	0.68	0.13	0.08	0.02	0.13
Nickel	mg/kg-dry	1	73	6.30	19.40	12.18	12.00	7.51	2.74
Potassium	mg/kg-dry	1	60	611	15500	2856	1665	11589232	3404
Selenium	mg/kg-dry	1	40	0.34	19.50	3.76	2.08	15.86	3.98
Silver	mg/kg-dry	1	73	0.47	12.60	1.97	0.60	7.85	2.80
Sodium	mg/kg-dry	1	73	79	10600	1444	811	5165580	2273
Thallium	mg/kg-dry	1	73	0.20	4.60	1.23	1.35	0.38	0.61
Uranium	mg/kg-dry	1	60	3.60	127.00	20.18	11.35	602.70	24.55
Vanadium	mg/kg-dry	1	73	11.00	101.00	32.79	28.20	264.50	16.26
Zinc	mg/kg-dry	1	76	170	26600	8528	6880	46852409	6845
TCDD-TEQ (Avian)	ng/kg-dry	1	10	0.30	1.03	0.70	0.68	0.06	0.24
TCDD-TEQ (Mammal)	ng/kg-dry	1	10	0.08	0.35	0.17	0.15	0.01	0.09
Total DDx	ug/kg-dry	1	69	0.34	3.54	1.23	0.50	0.84	0.92
Total HPAHs	ug/kg-dry	1	56	2.00	622.00	35.62	15.35	7445.00	86.29
Total LPAHs	ug/kg-dry	1	56	2.00	89.50	16.25	12.85	177.60	13.33
Total PCBs	ug/kg-dry	1	69	1.70	40.00	8.25	2.10	168.40	12.98
Aluminum	mg/kg-dry	2	46	4070	60400	11694	8755	114700000	10711
Antimony	mg/kg-dry	2	39	0.24	53.90	14.03	5.90	242.20	15.56
Arsenic	mg/kg-dry	2	46	1.05	53.20	12.07	9.60	111.90	10.58
Barium	mg/kg-dry	2	46	80.50	2130.00	603.30	378.50	313604.00	560.00
Beryllium	mg/kg-dry	2	46	0.28	2.40	0.79	0.67	0.20	0.44
Cadmium	mg/kg-dry	2	46	0.12	6.90	2.82	2.65	2.87	1.69
Calcium	mg/kg-dry	2	46	2560	76500	27322	22350	378700000	19461
Chromium	mg/kg-dry	2	46	9.80	150.00	39.62	25.35	1358.00	36.85
Cobalt	mg/kg-dry	2	46	4.10	66.90	15.50	9.05	275.00	16.58
Copper	mg/kg-dry	2	46	13.90	3030.00	506.80	153.00	651030.00	806.90
Iron	mg/kg-dry	2	46	9880	248000	55043	25250	3925000000	62651
Lead	mg/kg-dry	2	46	16.00	1590.00	229.50	192.50	57997.00	240.80
Magnesium	mg/kg-dry	2	46	3000	25000	9627	8275	23570441	4855
Manganese	mg/kg-dry	2	46	147.00	4860.00	1051.00	450.50	1717645.00	1311.00
Mercury	mg/kg-dry	2	44	0.01	1.10	0.26	0.19	0.06	0.24
Nickel	mg/kg-dry	2	46	7.70	23.00	15.19	15.00	19.47	4.41
Potassium	mg/kg-dry	2	37	624	21300	2767	1420	19237035	4386
Selenium	mg/kg-dry	2	21	0.34	23.20	3.90	2.20	27.24	5.22
Silver	mg/kg-dry	2	46	0.13	7.70	1.29	0.65	2.27	1.51
Sodium	mg/kg-dry	2	46	48	19300	1312	218	13915411	3730
Thallium	mg/kg-dry	2	46	0.39	4.00	1.49	1.55	0.38	0.62
Uranium	mg/kg-dry	2	37	4.25	111.00	22.68	12.80	695.00	26.36
Vanadium	mg/kg-dry	2	46	15.20	80.40	30.30	28.05	132.80	11.53
Zinc	mg/kg-dry	2	46	93	24900	4239	1420	40138357	6335
TCDD-TEQ (Avian)	ng/kg-dry	2	3	4.09	15.94	11.59	14.73	42.54	6.52
TCDD-TEQ (Mammal)	ng/kg-dry	2	3	0.60	2.28	1.61	1.97	0.79	0.89
Total DDx	ug/kg-dry	2	44	0.36	3.24	1.16	0.50	0.92	0.96
Total HPAHs	ug/kg-dry	2	35	2.50	62.00	23.65	18.10	282.30	16.80
Total LPAHs	ug/kg-dry	2	35	2.50	27.00	15.84	15.40	32.77	5.73
Total PCBs	ug/kg-dry	2	44	1.80	55.00	9.59	2.48	217.80	14.76

Table D-7. Sediment Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Aluminum	mg/kg-dry	3	63	2530	81000	16452	10400	339100000	18415
Antimony	mg/kg-dry	3	54	0.15	42.50	5.93	3.50	59.80	7.73
Arsenic	mg/kg-dry	3	64	0.95	26.20	7.09	6.35	32.22	5.68
Barium	mg/kg-dry	3	63	29.20	1610.00	440.30	258.00	203318.00	450.90
Beryllium	mg/kg-dry	3	63	0.22	3.00	0.96	0.67	0.46	0.67
Cadmium	mg/kg-dry	3	64	0.07	7.30	2.22	1.60	4.28	2.07
Calcium	mg/kg-dry	3	63	1900	68700	16494	10300	227000000	15068
Chromium	mg/kg-dry	3	63	5.20	109.00	32.86	25.00	586.20	24.21
Cobalt	mg/kg-dry	3	63	2.50	41.60	10.17	8.20	57.40	7.58
Copper	mg/kg-dry	3	64	4.50	2240.00	216.90	53.50	198248.00	445.20
Iron	mg/kg-dry	3	63	5140	266000	40717	23400	2778000000	52707
Lead	mg/kg-dry	3	64	2.60	1150.00	184.90	96.85	59308.00	243.50
Magnesium	mg/kg-dry	3	63	1760	22200	8505	7370	26555264	5153
Manganese	mg/kg-dry	3	63	91.90	4690.00	742.10	388.00	941318.00	970.20
Mercury	mg/kg-dry	3	58	0.0004	1.20	0.22	0.07	0.09	0.30
Nickel	mg/kg-dry	3	63	4.10	52.80	17.43	16.40	93.44	9.67
Potassium	mg/kg-dry	3	52	503	27000	4443	1585	50912803	7135
Selenium	mg/kg-dry	3	28	0.34	23.40	3.18	1.73	20.56	4.53
Silver	mg/kg-dry	3	63	0.40	5.00	0.97	0.65	0.55	0.74
Sodium	mg/kg-dry	3	63	20	19200	2244	229	28696799	5357
Thallium	mg/kg-dry	3	63	0.39	3.55	1.42	1.30	0.45	0.67
Uranium	mg/kg-dry	3	52	3.60	78.40	16.64	11.05	305.30	17.47
Vanadium	mg/kg-dry	3	63	7.70	110.00	36.89	31.20	471.90	21.72
Zinc	mg/kg-dry	3	64	16	24800	2469	541	29282368	5411
TCDD-TEQ (Avian)	ng/kg-dry	3	9	0.12	25.29	5.24	0.51	94.20	9.71
TCDD-TEQ (Mammal)	ng/kg-dry	3	9	0.07	3.45	0.76	0.14	1.65	1.28
Total DDx	ug/kg-dry	3	56	0.35	8.50	1.60	0.58	2.97	1.72
Total HPAHs	ug/kg-dry	3	45	2.00	81.00	19.52	17.90	251.50	15.86
Total LPAHs	ug/kg-dry	3	45	2.00	123.00	16.33	15.10	383.60	19.59
Total PCBs	ug/kg-dry	3	56	1.70	90.00	14.23	2.30	663.10	25.75
Aluminum	mg/kg-dry	4a	65	3000	79900	16083	11000	328400000	18123
Antimony	mg/kg-dry	4a	54	0.15	7.15	2.38	2.00	3.38	1.84
Arsenic	mg/kg-dry	4a	65	0.65	20.20	6.15	4.80	21.82	4.67
Barium	mg/kg-dry	4a	65	29.80	1240.00	328.90	228.00	125967.00	354.90
Beryllium	mg/kg-dry	4a	65	0.21	3.00	0.99	0.78	0.42	0.65
Cadmium	mg/kg-dry	4a	65	0.06	14.20	2.97	2.10	10.90	3.30
Calcium	mg/kg-dry	4a	65	879	38200	10980	10800	57731228	7598
Chromium	mg/kg-dry	4a	65	5.60	76.80	27.34	24.80	229.40	15.15
Cobalt	mg/kg-dry	4a	65	2.30	20.00	8.41	8.20	14.24	3.77
Copper	mg/kg-dry	4a	65	4.20	152.00	51.21	25.00	2023.00	44.98
Iron	mg/kg-dry	4a	65	5180	42000	20785	19600	81106625	9006
Lead	mg/kg-dry	4a	65	3.00	841.00	149.10	86.60	32894.00	181.40
Magnesium	mg/kg-dry	4a	65	1390	22400	7954	7240	21957986	4686
Manganese	mg/kg-dry	4a	65	103.00	1150.00	421.80	420.00	48305.00	219.80
Mercury	mg/kg-dry	4a	60	0.01	2.40	0.51	0.22	0.41	0.64
Nickel	mg/kg-dry	4a	65	4.10	38.00	20.37	21.00	64.77	8.05
Potassium	mg/kg-dry	4a	51	372	26800	4300	1920	55562230	7454
Selenium	mg/kg-dry	4a	38	0.36	7.80	2.34	1.83	4.36	2.09
Silver	mg/kg-dry	4a	63	0.43	2.90	1.02	0.80	0.35	0.60
Sodium	mg/kg-dry	4a	65	42	23700	2091	244	34896846	5907
Thallium	mg/kg-dry	4a	65	0.40	3.65	1.55	1.35	0.82	0.90
Uranium	mg/kg-dry	4a	51	1.40	29.20	12.85	11.25	47.96	6.93
Vanadium	mg/kg-dry	4a	65	9.10	103.00	35.93	32.90	336.50	18.34
Zinc	mg/kg-dry	4a	65	26	1710	412	230	179217	423
TCDD-TEQ (Avian)	ng/kg-dry	4a	8	0.38	30.03	9.47	5.44	114.60	10.70
TCDD-TEQ (Mammal)	ng/kg-dry	4a	8	0.11	4.58	1.47	0.81	2.62	1.62
Total DDx	ug/kg-dry	4a	59	0.35	16.80	1.72	0.85	7.25	2.69
Total HPAHs	ug/kg-dry	4a	45	2.00	71.50	21.43	18.90	192.80	13.88
Total LPAHs	ug/kg-dry	4a	45	2.00	47.50	14.12	12.90	154.50	12.43
Total PCBs	ug/kg-dry	4a	59	1.75	244.00	17.10	3.40	1267.00	35.60

Table D-7. Sediment Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Aluminum	mg/kg-dry	4b	78	2760	76200	15288	11150	264200000	16253
Antimony	mg/kg-dry	4b	38	0.14	4.20	1.43	1.05	1.34	1.16
Arsenic	mg/kg-dry	4b	79	0.38	16.30	6.43	6.20	13.60	3.69
Barium	mg/kg-dry	4b	78	20.60	1180.00	192.40	109.00	65520.00	256.00
Beryllium	mg/kg-dry	4b	78	0.21	2.70	1.05	0.91	0.35	0.59
Cadmium	mg/kg-dry	4b	79	0.04	12.70	1.89	0.60	6.07	2.46
Calcium	mg/kg-dry	4b	78	1320	20000	6471	5155	21221721	4607
Chromium	mg/kg-dry	4b	78	4.60	101.00	27.82	23.00	373.40	19.32
Cobalt	mg/kg-dry	4b	78	2.10	18.40	9.48	9.25	15.55	3.94
Copper	mg/kg-dry	4b	79	3.00	97.50	31.17	20.00	633.50	25.17
Iron	mg/kg-dry	4b	78	4930	42000	21921	19700	78732447	8873
Lead	mg/kg-dry	4b	79	3.10	841.00	83.67	22.10	15908.00	126.10
Magnesium	mg/kg-dry	4b	78	1540	16000	6524	6280	11045284	3323
Manganese	mg/kg-dry	4b	78	95.30	3200.00	489.80	357.50	199883.00	447.10
Mercury	mg/kg-dry	4b	73	0.01	1.80	0.29	0.06	0.20	0.45
Nickel	mg/kg-dry	4b	78	2.80	48.00	21.54	20.80	119.10	10.91
Potassium	mg/kg-dry	4b	77	317	25000	3203	1670	30056468	5482
Selenium	mg/kg-dry	4b	40	0.50	7.90	2.85	2.00	3.60	1.90
Silver	mg/kg-dry	4b	66	0.42	1.70	0.76	0.55	0.13	0.36
Sodium	mg/kg-dry	4b	78	23	21000	1195	147	15969492	3996
Thallium	mg/kg-dry	4b	78	0.75	3.70	1.66	1.40	0.44	0.66
Uranium	mg/kg-dry	4b	77	3.10	29.75	12.62	11.45	32.93	5.74
Vanadium	mg/kg-dry	4b	78	8.70	112.00	34.59	29.70	469.60	21.67
Zinc	mg/kg-dry	4b	79	21	1230	242	149	59783	245
TCDD-TEQ (Avian)	ng/kg-dry	4b	15	0.11	20.00	3.52	1.04	41.15	6.42
TCDD-TEQ (Mammal)	ng/kg-dry	4b	15	0.07	2.72	0.59	0.29	0.77	0.88
Total DDx	ug/kg-dry	4b	73	0.34	341.70	6.47	0.80	1589.00	39.86
Total HPAHs	ug/kg-dry	4b	72	2.00	132.00	16.52	13.85	357.30	18.90
Total LPAHs	ug/kg-dry	4b	72	2.00	33.00	12.88	12.05	92.58	9.62
Total PCBs	ug/kg-dry	4b	72	1.70	55.00	3.37	2.05	40.37	6.35
Aluminum	mg/kg-dry	5	37	5070	83900	18286	9630	402300000	20058
Antimony	mg/kg-dry	5	11	0.71	9.30	4.46	3.85	6.25	2.50
Arsenic	mg/kg-dry	5	38	1.20	22.00	9.25	8.85	24.31	4.93
Barium	mg/kg-dry	5	37	33.60	1080.00	209.00	97.20	65508.00	255.90
Beryllium	mg/kg-dry	5	37	0.32	2.90	1.21	0.77	0.60	0.78
Cadmium	mg/kg-dry	5	38	0.03	16.20	3.05	0.47	15.30	3.91
Calcium	mg/kg-dry	5	37	1590	40800	8775	6090	49188614	7013
Chromium	mg/kg-dry	5	37	6.20	101.00	26.25	16.30	528.10	22.98
Cobalt	mg/kg-dry	5	37	3.00	19.40	9.92	6.70	30.79	5.55
Copper	mg/kg-dry	5	38	3.50	89.70	33.17	15.35	741.40	27.23
Iron	mg/kg-dry	5	37	10200	52000	23941	17000	150000000	12246
Lead	mg/kg-dry	5	38	4.40	583.00	92.58	20.85	14772.00	121.50
Magnesium	mg/kg-dry	5	37	3280	15700	7544	6920	8250153	2872
Manganese	mg/kg-dry	5	37	181.00	3780.00	680.40	392.00	481637.00	694.00
Mercury	mg/kg-dry	5	36	0.004	1.25	0.31	0.05	0.16	0.40
Nickel	mg/kg-dry	5	37	6.10	50.10	19.42	13.40	160.20	12.66
Potassium	mg/kg-dry	5	37	881	25800	3854	1810	35574864	5964
Selenium	mg/kg-dry	5	32	0.34	8.90	3.59	3.15	3.26	1.81
Silver	mg/kg-dry	5	31	0.46	1.55	0.88	0.65	0.18	0.42
Sodium	mg/kg-dry	5	37	46	13000	1104	148	10262553	3204
Thallium	mg/kg-dry	5	37	1.00	3.90	1.91	1.35	0.84	0.92
Uranium	mg/kg-dry	5	37	3.40	31.00	14.53	10.50	63.34	7.96
Vanadium	mg/kg-dry	5	37	8.40	125.00	35.39	22.00	921.50	30.36
Zinc	mg/kg-dry	5	38	27	1250	335	121	121189	348
TCDD-TEQ (Avian)	ng/kg-dry	5	5	0.12	55.53	15.84	0.35	590.40	24.30
TCDD-TEQ (Mammal)	ng/kg-dry	5	5	0.08	7.44	2.55	0.36	11.45	3.38
Total DDx	ug/kg-dry	5	34	0.34	5.14	1.53	0.80	2.41	1.55
Total HPAHs	ug/kg-dry	5	34	2.00	94.00	18.50	10.20	417.00	20.42
Total LPAHs	ug/kg-dry	5	34	2.00	39.00	17.10	14.05	76.07	8.72
Total PCBs	ug/kg-dry	5	33	1.70	8.00	2.95	2.15	2.08	1.44

Table D-7. Sediment Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Aluminum	mg/kg-dry	6	47	4100	77800	19316	10500	388000000	19699
Antimony	mg/kg-dry	6	12	0.40	9.55	2.73	1.10	9.64	3.10
Arsenic	mg/kg-dry	6	50	0.37	15.50	7.51	8.65	13.06	3.61
Barium	mg/kg-dry	6	47	35.50	1030.00	214.30	109.00	64314.00	253.60
Beryllium	mg/kg-dry	6	47	0.35	2.70	1.27	1.00	0.54	0.74
Cadmium	mg/kg-dry	6	50	0.024	12.40	2.36	0.33	11.03	3.32
Calcium	mg/kg-dry	6	47	1430	18800	6463	5060	18420917	4292
Chromium	mg/kg-dry	6	47	1.20	79.00	24.04	14.00	345.80	18.59
Cobalt	mg/kg-dry	6	47	2.70	19.40	8.70	6.90	22.25	4.72
Copper	mg/kg-dry	6	50	3.00	89.50	28.45	12.15	747.90	27.35
Iron	mg/kg-dry	6	47	9830	45800	23079	18000	103400000	10167
Lead	mg/kg-dry	6	50	3.20	462.00	69.54	14.90	9898.00	99.49
Magnesium	mg/kg-dry	6	47	1840	14000	7037	6940	6434683	2537
Manganese	mg/kg-dry	6	47	102.00	2290.00	613.50	410.00	274367.00	523.80
Mercury	mg/kg-dry	6	45	0.004	1.80	0.31	0.06	0.22	0.46
Nickel	mg/kg-dry	6	47	0.68	39.20	16.60	12.70	102.30	10.11
Potassium	mg/kg-dry	6	47	747	27500	4705	2020	56355283	7507
Selenium	mg/kg-dry	6	39	0.38	8.60	3.60	3.30	4.71	2.17
Silver	mg/kg-dry	6	37	0.37	2.10	0.96	0.55	0.32	0.56
Sodium	mg/kg-dry	6	47	44	17300	1777	177	21495334	4636
Thallium	mg/kg-dry	6	47	0.70	5.25	2.08	1.30	1.91	1.38
Uranium	mg/kg-dry	6	47	2.40	42.15	16.03	10.10	134.70	11.61
Vanadium	mg/kg-dry	6	47	8.90	93.50	33.76	25.00	526.40	22.94
Zinc	mg/kg-dry	6	50	28	1210	277	99	105367	325
TCDD-TEQ (Avian)	ng/kg-dry	6	7	0.14	30.42	4.49	0.17	130.80	11.44
TCDD-TEQ (Mammal)	ng/kg-dry	6	7	0.09	5.65	0.90	0.11	4.39	2.10
Total DDx	ug/kg-dry	6	42	0.34	31.30	1.64	0.57	22.51	4.74
Total HPAHs	ug/kg-dry	6	42	2.00	72.60	20.29	11.05	483.70	21.99
Total LPAHs	ug/kg-dry	6	42	2.00	44.00	17.86	13.65	171.10	13.08
Total PCBs	ug/kg-dry	6	40	1.65	9.50	3.31	2.10	4.84	2.20

Notes:

N - Sample Size
SD - Standard Deviation
mg/kg-dry - milligrams per kilogram dry weight
ug/kg-dry - micrograms per kilogram dry weight
ng/kg-dry - nanograms per kilogram dry weight
TCDD-TEQ (Avian) - Tetrachloro-dibenzodioxin (TCDD) toxic equivalent concentration for avian species
TCDD-TEQ (Mammal) - Tetrachloro-dibenzodioxin (TCDD) toxic equivalent concentration for mammalian species
Total DDx - Total DDT and metabolite concentration
Total HPAHs - Total high molecular weight polyaromatic hydrocarbon concentrations
Total LPAHs - Total low molecular weight polyaromatic hydrocarbon concentrations
Total PCBs - Total polychlorinated biphenyl concentrations

Table D-8. Fish Tissue Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Aluminum	mg/kg-dry	1	18	6.00	497.00	99.34	17.35	26579.00	163.00
Antimony	mg/kg-dry	1	18	0.19	2.10	0.33	0.20	0.21	0.45
Arsenic	mg/kg-dry	1	18	0.19	1.20	0.45	0.40	0.07	0.26
Barium	mg/kg-dry	1	18	1.30	41.70	7.64	3.32	117.40	10.83
Beryllium	mg/kg-dry	1	18	0.01	0.01	0.01	0.01	0	0.0002
Cadmium	mg/kg-dry	1	18	0.06	1.20	0.29	0.11	0.11	0.34
Calcium	mg/kg-dry	1	18	11700.00	51300.00	27613.00	21725.00	191200000.00	13829.00
Chromium	mg/kg-dry	1	18	2.02	11.00	3.39	2.73	4.60	2.14
Cobalt	mg/kg-dry	1	18	0.06	1.30	0.22	0.08	0.10	0.31
Copper	mg/kg-dry	1	18	1.22	45.20	7.29	3.77	129.30	11.37
Iron	mg/kg-dry	1	18	36.78	3830.00	500.10	92.95	949543.00	974.40
Lead	mg/kg-dry	1	18	0.10	25.10	3.71	0.47	61.31	7.83
Magnesium	mg/kg-dry	1	18	842.00	1522.00	1156.00	1067.00	59388.00	243.70
Manganese	mg/kg-dry	1	18	3.29	99.20	18.37	4.90	834.20	28.88
Mercury	mg/kg-dry	1	18	0.18	0.80	0.38	0.26	0.04	0.21
Nickel	mg/kg-dry	1	18	0.48	3.20	1.26	0.93	0.55	0.74
Potassium	mg/kg-dry	1	18	8660.00	13700.00	11154.00	11480.00	2590609.00	1610.00
Selenium	mg/kg-dry	1	18	1.30	3.51	2.28	2.38	0.36	0.60
Silver	mg/kg-dry	1	18	0.08	0.13	0.10	0.08	0.0006	0.03
Sodium	mg/kg-dry	1	18	1840.00	5060.00	3056.00	3012.00	739103.00	859.70
Thallium	mg/kg-dry	1	18	0.12	0.13	0.13	0.13	0	0.002
Uranium	mg/kg-dry	1	18	0.003	0.12	0.03	0.01	0.001	0.04
Vanadium	mg/kg-dry	1	18	0.20	1.20	0.33	0.20	0.09	0.30
Zinc	mg/kg-dry	1	18	48.48	452.00	109.90	82.03	9575.00	97.85
TCDD-TEQ (Avian)	ng/kg-dry	1	18	4.23	45.53	13.15	8.69	150.70	12.27
TCDD-TEQ (Mammalian)	ng/kg-dry	1	18	1.53	29.97	5.60	2.25	64.87	8.05
Total PCBs	mg/kg-dry	1	18	0.09	0.46	0.26	0.28	0.01	0.11
Aluminum	mg/kg-dry	2	22	6.00	150.00	26.43	15.30	1191.00	34.52
Antimony	mg/kg-dry	2	22	0.19	0.22	0.20	0.20	0.00003	0.01
Arsenic	mg/kg-dry	2	22	0.20	3.63	0.89	0.57	1.00	1.00
Barium	mg/kg-dry	2	22	1.30	25.60	6.66	3.39	53.09	7.29
Beryllium	mg/kg-dry	2	22	0.01	0.01	0.01	0.01	0	0.0003
Cadmium	mg/kg-dry	2	22	0.03	1.80	0.33	0.11	0.27	0.52
Calcium	mg/kg-dry	2	22	12900.00	51000.00	30295.00	33750.00	185900000.00	13636.00
Chromium	mg/kg-dry	2	22	1.40	5.34	2.42	2.10	1.02	1.01
Cobalt	mg/kg-dry	2	22	0.02	0.23	0.10	0.08	0.003	0.06
Copper	mg/kg-dry	2	22	1.10	6.78	3.50	3.76	3.46	1.86
Iron	mg/kg-dry	2	22	34.00	329.00	90.95	56.70	6543.00	80.89
Lead	mg/kg-dry	2	22	0.09	16.20	2.68	0.26	28.75	5.36
Magnesium	mg/kg-dry	2	22	809.00	1650.00	1196.00	1215.00	80815.00	284.30
Manganese	mg/kg-dry	2	22	2.00	26.80	8.78	5.03	67.73	8.23
Mercury	mg/kg-dry	2	22	0.12	0.84	0.41	0.47	0.06	0.25
Nickel	mg/kg-dry	2	22	0.47	2.59	1.19	1.30	0.39	0.62
Potassium	mg/kg-dry	2	22	8710.00	14600.00	11781.00	12050.00	2897323.00	1702.00
Selenium	mg/kg-dry	2	22	1.70	3.53	2.24	2.20	0.19	0.44
Silver	mg/kg-dry	2	22	0.08	0.14	0.11	0.13	0.0005	0.02
Sodium	mg/kg-dry	2	22	1940.00	7080.00	3703.00	3695.00	2238099.00	1496.00
Thallium	mg/kg-dry	2	22	0.12	0.14	0.13	0.13	0.00001	0.003
Uranium	mg/kg-dry	2	22	0.001	0.07	0.02	0.01	0.0004	0.02
Vanadium	mg/kg-dry	2	22	0.20	0.66	0.28	0.20	0.02	0.15
Zinc	mg/kg-dry	2	22	36.00	103.00	61.02	54.50	413.50	20.33
TCDD-TEQ (Avian)	ng/kg-dry	2	22	4.67	47.58	17.53	16.45	126.30	11.24
TCDD-TEQ (Mammalian)	ng/kg-dry	2	22	1.29	26.08	4.85	3.40	26.56	5.15
Total PCBs	mg/kg-dry	2	22	0.15	2.33	0.38	0.30	0.20	0.45
Aluminum	mg/kg-dry	3	24	5.50	197.00	45.91	20.92	2971.00	54.51
Antimony	mg/kg-dry	3	24	0.18	0.20	0.20	0.20	0.00003	0.01
Arsenic	mg/kg-dry	3	24	0.34	3.26	1.03	0.66	0.85	0.92
Barium	mg/kg-dry	3	24	1.60	29.40	8.04	3.32	73.28	8.56
Beryllium	mg/kg-dry	3	24	0.01	0.01	0.01	0.01	0	0.0003
Cadmium	mg/kg-dry	3	24	0.05	1.70	0.32	0.13	0.21	0.46
Calcium	mg/kg-dry	3	24	13400.00	47400.00	30522.00	33339.00	131100000.00	11451.00
Chromium	mg/kg-dry	3	24	1.40	4.00	2.27	2.10	0.41	0.64

Table D-8. Fish Tissue Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Cobalt	mg/kg-dry	3	24	0.06	0.25	0.12	0.10	0.003	0.06
Copper	mg/kg-dry	3	24	1.07	9.89	3.83	3.42	6.69	2.59
Iron	mg/kg-dry	3	24	29.00	346.00	109.50	83.84	7986.00	89.37
Lead	mg/kg-dry	3	24	0.11	15.10	2.25	0.30	20.58	4.54
Magnesium	mg/kg-dry	3	24	790.00	1650.00	1281.00	1341.00	65668.00	256.30
Manganese	mg/kg-dry	3	24	2.10	30.80	9.06	5.14	66.81	8.17
Mercury	mg/kg-dry	3	24	0.14	1.27	0.56	0.61	0.13	0.36
Nickel	mg/kg-dry	3	24	0.49	2.20	1.23	1.32	0.22	0.47
Potassium	mg/kg-dry	3	24	8960.00	14800.00	12712.00	13450.00	3561932.00	1887.00
Selenium	mg/kg-dry	3	24	1.63	3.93	2.45	2.51	0.28	0.53
Silver	mg/kg-dry	3	24	0.08	0.13	0.11	0.12	0.0004	0.02
Sodium	mg/kg-dry	3	24	2040.00	7460.00	4168.00	3675.00	2643929.00	1626.00
Thallium	mg/kg-dry	3	24	0.12	0.13	0.12	0.12	0.00001	0.004
Uranium	mg/kg-dry	3	24	0.002	0.09	0.02	0.01	0.001	0.03
Vanadium	mg/kg-dry	3	24	0.18	0.82	0.37	0.26	0.05	0.21
Zinc	mg/kg-dry	3	24	39.80	93.43	61.82	56.10	367.30	19.17
TCDD-TEQ (Avian)	ng/kg-dry	3	24	4.91	28.42	13.39	11.81	45.07	6.71
TCDD-TEQ (Mammalian)	ng/kg-dry	3	24	1.30	15.21	4.75	3.19	12.58	3.55
Total PCBs	mg/kg-dry	3	24	0.18	0.47	0.27	0.24	0.01	0.08
Aluminum	mg/kg-dry	4a,b [a]	24	6.00	328.00	77.68	25.00	12177.00	110.30
Antimony	mg/kg-dry	4a,b [a]	24	0.19	0.20	0.20	0.20	0.00002	0.004
Arsenic	mg/kg-dry	4a,b [a]	24	0.25	4.57	1.13	0.72	1.38	1.17
Barium	mg/kg-dry	4a,b [a]	24	1.04	31.40	9.20	3.50	106.90	10.34
Beryllium	mg/kg-dry	4a,b [a]	24	0.01	0.01	0.01	0.01	0	0.0002
Cadmium	mg/kg-dry	4a,b [a]	24	0.06	1.30	0.35	0.16	0.18	0.42
Calcium	mg/kg-dry	4a,b [a]	24	12600.00	62400.00	31075.00	32050.00	233000000.00	15266.00
Chromium	mg/kg-dry	4a,b [a]	24	1.30	7.78	2.63	2.15	2.30	1.52
Cobalt	mg/kg-dry	4a,b [a]	24	0.05	0.41	0.15	0.11	0.01	0.11
Copper	mg/kg-dry	4a,b [a]	24	1.30	6.95	2.84	2.20	1.98	1.41
Iron	mg/kg-dry	4a,b [a]	24	34.00	482.00	133.90	56.90	21063.00	145.10
Lead	mg/kg-dry	4a,b [a]	24	0.03	8.38	1.36	0.37	5.20	2.28
Magnesium	mg/kg-dry	4a,b [a]	24	780.00	1740.00	1249.00	1260.00	77322.00	278.10
Manganese	mg/kg-dry	4a,b [a]	24	3.19	35.50	12.05	7.05	108.50	10.41
Mercury	mg/kg-dry	4a,b [a]	24	0.14	1.20	0.57	0.55	0.12	0.35
Nickel	mg/kg-dry	4a,b [a]	24	0.45	3.29	1.27	1.30	0.52	0.72
Potassium	mg/kg-dry	4a,b [a]	24	8470.00	15400.00	12024.00	11850.00	3794651.00	1948.00
Selenium	mg/kg-dry	4a,b [a]	24	1.50	3.24	2.31	2.35	0.28	0.53
Silver	mg/kg-dry	4a,b [a]	24	0.08	0.13	0.11	0.12	0.0004	0.02
Sodium	mg/kg-dry	4a,b [a]	24	1920.00	7140.00	3874.00	3500.00	2427911.00	1558.00
Thallium	mg/kg-dry	4a,b [a]	24	0.12	0.13	0.12	0.13	0	0.002
Uranium	mg/kg-dry	4a,b [a]	24	0.002	0.08	0.02	0.005	0.001	0.03
Vanadium	mg/kg-dry	4a,b [a]	24	0.19	1.10	0.37	0.20	0.09	0.30
Zinc	mg/kg-dry	4a,b [a]	24	31.80	96.60	62.59	61.10	383.30	19.58
TCDD-TEQ (Avian)	ng/kg-dry	4a,b [a]	24	4.74	37.74	16.92	16.42	87.69	9.36
TCDD-TEQ (Mammalian)	ng/kg-dry	4a,b [a]	24	1.21	26.26	4.85	3.64	25.58	5.06
Total PCBs	mg/kg-dry	4a,b [a]	24	0.18	0.89	0.34	0.25	0.04	0.21
Aluminum	mg/kg-dry	5	24	5.50	270.00	47.03	28.50	3153.00	56.15
Antimony	mg/kg-dry	5	24	0.19	0.20	0.20	0.20	0.00003	0.01
Arsenic	mg/kg-dry	5	24	0.21	4.88	1.30	0.65	2.14	1.46
Barium	mg/kg-dry	5	24	1.22	41.30	10.44	3.17	158.60	12.59
Beryllium	mg/kg-dry	5	24	0.01	0.01	0.01	0.01	0	0.0003
Cadmium	mg/kg-dry	5	24	0.02	1.10	0.31	0.16	0.14	0.37
Calcium	mg/kg-dry	5	24	12200.00	55100.00	32167.00	32750.00	228900000.00	15129.00
Chromium	mg/kg-dry	5	24	1.40	7.14	2.47	2.00	1.71	1.31
Cobalt	mg/kg-dry	5	24	0.06	0.34	0.13	0.10	0.005	0.07
Copper	mg/kg-dry	5	24	1.20	6.25	2.64	2.05	1.90	1.38
Iron	mg/kg-dry	5	24	28.00	411.00	96.75	63.70	6682.00	81.74
Lead	mg/kg-dry	5	24	0.02	2.80	0.65	0.18	0.84	0.92
Magnesium	mg/kg-dry	5	24	806.00	1850.00	1220.00	1130.00	107188.00	327.40

Table D-8. Fish Tissue Exposure Concentrations

Chemical of Interest	Units	Reach	N	Minimum	Maximum	Mean	Median	Variance	SD
Manganese	mg/kg-dry	5	24	3.60	31.70	10.62	6.53	63.78	7.99
Mercury	mg/kg-dry	5	24	0.19	1.17	0.56	0.63	0.12	0.34
Nickel	mg/kg-dry	5	24	0.44	2.50	1.18	1.15	0.34	0.59
Potassium	mg/kg-dry	5	24	7980.00	15500.00	11480.00	11750.00	4597739.00	2144.00
Selenium	mg/kg-dry	5	24	1.10	2.62	1.84	1.70	0.19	0.43
Silver	mg/kg-dry	5	24	0.08	0.13	0.12	0.12	0.0003	0.02
Sodium	mg/kg-dry	5	24	2080.00	8020.00	4208.00	3800.00	3574254.00	1891.00
Thallium	mg/kg-dry	5	24	0.12	0.13	0.12	0.12	0.00001	0.004
Uranium	mg/kg-dry	5	24	0.002	0.06	0.02	0.01	0.0004	0.02
Vanadium	mg/kg-dry	5	24	0.19	0.86	0.31	0.20	0.03	0.17
Zinc	mg/kg-dry	5	24	36.60	95.40	61.33	62.65	283.50	16.84
TCDD-TEQ (Avian)	ng/kg-dry	5	24	6.80	46.14	17.49	15.62	93.07	9.65
TCDD-TEQ (Mammalian)	ng/kg-dry	5	24	1.62	27.33	4.99	3.35	31.11	5.58
Total PCBs	mg/kg-dry	5	24	0.16	0.83	0.35	0.27	0.04	0.20
Aluminum	mg/kg-dry	6	23	6.00	321.00	52.35	19.19	5825.00	76.32
Antimony	mg/kg-dry	6	23	0.19	0.22	0.20	0.20	0.00002	0.004
Arsenic	mg/kg-dry	6	23	0.20	4.47	1.23	0.62	1.82	1.35
Barium	mg/kg-dry	6	23	0.95	34.60	10.59	3.20	147.10	12.13
Beryllium	mg/kg-dry	6	23	0.01	0.01	0.01	0.01	0	0.0002
Cadmium	mg/kg-dry	6	23	0.05	1.10	0.29	0.18	0.13	0.35
Calcium	mg/kg-dry	6	23	15000.00	52200.00	35452.00	38500.00	150800000.00	12278.00
Chromium	mg/kg-dry	6	23	1.15	6.63	2.63	1.90	3.27	1.81
Cobalt	mg/kg-dry	6	23	0.06	0.29	0.13	0.09	0.005	0.07
Copper	mg/kg-dry	6	23	1.20	7.49	2.70	1.58	3.08	1.75
Iron	mg/kg-dry	6	23	32.50	551.00	122.70	64.67	16857.00	129.80
Lead	mg/kg-dry	6	23	0.04	3.35	0.55	0.14	0.79	0.89
Magnesium	mg/kg-dry	6	23	796.00	1680.00	1302.00	1347.00	53146.00	230.50
Manganese	mg/kg-dry	6	23	2.94	30.40	9.83	5.62	62.94	7.93
Mercury	mg/kg-dry	6	23	0.25	1.19	0.72	0.77	0.09	0.31
Nickel	mg/kg-dry	6	23	0.57	2.81	1.39	1.37	0.34	0.58
Potassium	mg/kg-dry	6	23	8330.00	14200.00	12184.00	12640.00	2503257.00	1582.00
Selenium	mg/kg-dry	6	23	0.99	2.40	1.76	1.90	0.18	0.43
Silver	mg/kg-dry	6	23	0.08	0.13	0.11	0.13	0.001	0.02
Sodium	mg/kg-dry	6	23	2060.00	7390.00	4411.00	3879.00	2252126.00	1501.00
Thallium	mg/kg-dry	6	23	0.12	0.21	0.14	0.13	0.001	0.03
Uranium	mg/kg-dry	6	23	0.002	0.07	0.02	0.01	0.0005	0.02
Vanadium	mg/kg-dry	6	23	0.20	1.20	0.33	0.20	0.06	0.25
Zinc	mg/kg-dry	6	23	36.10	112.80	62.86	58.20	435.10	20.86
TCDD-TEQ (Avian)	ng/kg-dry	6	23	5.69	64.49	18.91	16.82	187.70	13.70
TCDD-TEQ (Mammalian)	ng/kg-dry	6	23	1.41	40.97	6.04	3.55	67.63	8.22
Total PCBs	mg/kg-dry	6	23	0.18	0.57	0.31	0.30	0.01	0.10

Notes:

[a] Fish tissue samples were not collected within Reach 4b; therefore, those tissue concentrations for Reach 4a were also applied to Reach 4b in the exposure assessment.

N - Sample Size

SD - Standard Deviation

mg/kg-dry - milligrams per kilogram dry weight

ng/kg-dry - nanograms per kilogram dry weight

TCDD-TEQ (Avian) - Tetrachloro-dibenzodioxin (TCDD) toxic equivalent concentration for avian species

TCDD-TEQ (Mammal) - Tetrachloro-dibenzodioxin (TCDD) toxic equivalent concentration for mammalian species

Total PCBs - Total polychlorinated biphenyl concentrations

Table D-9. Biota-Sediment Accumulation Factors for Benthic Invertebrates

Parameter	Units	N	Mean	Median	Min	Max	90%ile	BSAF used in Exposure Models	Reference
Chemicals of Interest									
Aluminum	Unitless, dry-weight	25	0.11	0.06	0.02	0.29	0.25	0.25	Hamilton and Buhl (2002, 2003a,b)
Antimony	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Arsenic	Unitless, dry-weight	55	0.33	0.14	0.02	4.33	0.69	0.69	Sample et al. (1998)
Barium	Unitless, dry-weight	25	1.75	0.28	0.06	12.80	4.00	4.00	Hamilton and Buhl (2002, 2003a,b)
Beryllium	Unitless, dry-weight	25	0.19	0.14	0.03	1.00	0.20	0.20	Hamilton and Buhl (2002, 2003a,b)
Cadmium	Unitless, dry-weight	120	2.82	0.60	0.001	41.55	7.99	7.99	Sample et al. (1998)
Calcium	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Chromium	Unitless, dry-weight	34	0.18	0.10	0.015	1.10	0.47	0.47	Sample et al. (1998)
Cobalt	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Copper	Unitless, dry-weight	112	2.42	1.56	0.03	23.87	5.25	5.25	Sample et al. (1998)
Iron	Unitless, dry-weight	25	0.28	0.05	0.02	1.61	1.09	1.09	Hamilton and Buhl (2002, 2003a,b)
Lead	Unitless, dry-weight	114	0.28	0.071	0.004	7.08	0.61	0.61	Sample et al. (1998)
Magnesium	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Manganese	Unitless, dry-weight	25	0.67	0.42	0.10	2.20	1.63	1.63	Hamilton and Buhl (2002, 2003a,b)
Mercury	Unitless, dry-weight	15	1.42	1.14	0.29	3.98	2.87	2.87	Sample et al. (1998)
Nickel	Unitless, dry-weight	26	0.86	0.49	0.06	5.75	2.32	2.32	Sample et al. (1998)
Potassium	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Selenium	Unitless, dry-weight	25	3.37	3.19	0.28	10.80	6.53	6.53	Hamilton and Buhl (2002, 2003a,b)
Silver	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	0.18	Sample et al. (1998)
Sodium	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Thallium	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Uranium	Unitless, dry-weight	n/a	n/a	n/a	n/a	n/a	n/a	1	Default value
Vanadium	Unitless, dry-weight	25	0.15	0.10	0.04	0.46	0.33	0.33	Hamilton and Buhl (2002, 2003a,b)
Zinc	Unitless, dry-weight	112	3.09	1.94	0.03	14.51	7.53	7.53	Sample et al. (1998)
Dioxins/Furans	Unitless, dry-weight	32	0.09	0.05	0.01	0.30	0.30	0.30	USACE (2007)
Total DDx	Unitless, unknown, assumed dry-weight	18	2.45	0.51	0.03	28.00	3.50	3.50	USACE (2007)
Total HPAHs	Unitless, dry-weight	47	0.60	0.36	0.05	1.00	1.20	1.20	USACE (2007)
Total LPAHs	Unitless, dry-weight	7	1.00	1.00	0.80	1.00	1.10	1.10	USACE (2007)
Total PCBs	Unitless, dry-weight	40	1.13	0.78	0.11	5.00	2.31	2.31	USACE (2007)

Parameter	Units	N	Mean	Median	Min	Max	90%ile	Value used in Exposure Models	Reference
Supporting Parameters for Hydrophobic Organic Compounds									
Lipid Fraction in Freshwater Invertebrates	Percent, dry-weight	81	9.70	8.20	0.60	26.70	21.30	9.70	USACE (2007)
Total Organic Carbon Fraction in Sediments	Percent, dry-weight	501	0.85	0.54	0.01	6.80	1.95	0.85	USEPA (2003); USEPA (2006a); Ecology (2001); Cox et al. (2005)

Notes:

N - Sample Size
90%ile - 90th percentile of the available data
BSAF - Biota-sediment accumulation factor
n/a - Not available
Total DDx - Total DDT and metabolite concentration
Total HPAHs - Total high molecular weight polyaromatic hydrocarbon concentrations
Total LPAHs - Total low molecular weight polyaromatic hydrocarbon concentrations
Total PCBs - Total polychlorinated biphenyl concentrations
ORNL - Oak Ridge National Laboratory
USACE - U.S. Army Corps of Engineers
USEPA - U.S. Environmental Protection Agency
Ecology - Washington State Department of Ecology

Table D-10. Biota-Sediment Accumulation Factors for Rooted Aquatic Macrophytes

Parameter	BSAF	BSAF used in Exposure Models	Reference
Aluminum	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Antimony	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Arsenic	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Barium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Beryllium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Cadmium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Calcium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Chromium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Cobalt	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Copper	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Iron	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Lead	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Magnesium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Manganese	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Mercury	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Nickel	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Potassium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Selenium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Silver	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Sodium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Thallium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Uranium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Vanadium	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Zinc	Log (plant conc.) = -0.08 + 0.9(Log (sed. conc.))	Regression equation	Jackson et al. (1991); Jackson (1998)
Dioxins/Furans	n/a	1	Default value
Total DDx	n/a	1	Default value
Total HPAHs	n/a	1	Default value
Total LPAHs	n/a	1	Default value
Total PCBs	3.74	3.74	Vanier and Planas (2001)
Supporting Parameters for Hydrophobic Organic Compounds			
Lipid Fraction in Macrophytes (Percent, dry weight)	0.05	0.05	Mean of measured values from Vanier et al. (1999)
Total Organic Carbon Fraction in Sediments (Percent, dry weight)	0.85	0.85	Mean from Table 4

Notes:

BSAF - Biota-sediment accumulation factor

n/a - Not available

sed. conc. - sediment concentration

Total DDx - Total DDT and metabolite concentration

Total HPAHs - Total high molecular weight polyaromatic hydrocarbon concentrations

Total LPAHs - Total low molecular weight polyaromatic hydrocarbon concentrations

Total PCBs - Total polychlorinated biphenyl concentrations

Table D-11. Estimated COI Concentrations in Benthic Invertebrates and Rooted Aquatic Macrophyte Tissues

Chemicals of Interest	Reach	Units	Estimated Benthic Invertebrate Tissue Concentrations [a, b] Mean	Max	Estimated Rooted Macrophyte Tissue Concentrations [c, d] Mean	Max
Aluminum	1	mg/kg-dry	3140	11058	4096	12717
Antimony	1	mg/kg-dry	33.75	174.00	19.74	86.40
Arsenic	1	mg/kg-dry	10.94	51.34	10.00	40.22
Barium	1	mg/kg-dry	3696	9760	388	930
Beryllium	1	mg/kg-dry	0.17	0.36	0.72	1.41
Cadmium	1	mg/kg-dry	18.07	143.82	1.73	11.21
Calcium	1	mg/kg-dry	39836	85500	11488	22844
Chromium	1	mg/kg-dry	30.65	80.96	35.86	85.95
Cobalt	1	mg/kg-dry	28.18	85.70	16.79	45.68
Copper	1	mg/kg-dry	5906	17325	463	1221
Iron	1	mg/kg-dry	110159	277789	26474	60863
Lead	1	mg/kg-dry	192	1675	148	1039
Magnesium	1	mg/kg-dry	8794	26600	2950	7987
Manganese	1	mg/kg-dry	3079	8020	739	1749
Mercury	1	mg/kg-dry	0.36	1.95	0.13	0.59
Nickel	1	mg/kg-dry	28.26	45.01	7.89	12.00
Potassium	1	mg/kg-dry	2856	15500	1072	4912
Selenium	1	mg/kg-dry	24.57	127.34	2.74	12.05
Silver	1	mg/kg-dry	0.36	2.27	1.53	8.13
Sodium	1	mg/kg-dry	1444	10600	580	3490
Thallium	1	mg/kg-dry	1.23	4.60	1.00	3.28
Uranium	1	mg/kg-dry	20.18	127.00	12.43	65.08
Vanadium	1	mg/kg-dry	10.82	33.33	19.24	52.95
Zinc	1	mg/kg-dry	64190	200218	2869	7987
TCDD-TEQ (Avian)	1	mg/kg-dry	2.38E-06	3.51E-06	4.09E-08	6.03E-08
TCDD-TEQ (Mammalian)	1	mg/kg-dry	5.87E-07	1.20E-06	1.01E-08	2.06E-08
Total DDx	1	mg/kg-dry	0.05	0.14	0.0001	0.0002
Total HPAHs	1	mg/kg-dry	0.49	8.49	0.002	0.036
Total LPAHs	1	mg/kg-dry	0.20	1.12	0.001	0.005
Total PCBs	1	mg/kg-dry	0.22	1.05	0.002	0.009
Aluminum	2	mg/kg-dry	2899	14975	3812	16708
Antimony	2	mg/kg-dry	14.03	53.90	8.96	30.09
Arsenic	2	mg/kg-dry	8.33	36.71	7.83	29.74
Barium	2	mg/kg-dry	2413	8520	265	823
Beryllium	2	mg/kg-dry	0.16	0.48	0.67	1.83
Cadmium	2	mg/kg-dry	22.52	55.13	2.11	4.73
Calcium	2	mg/kg-dry	27322	76500	8182	20668
Chromium	2	mg/kg-dry	18.54	70.20	22.81	75.59
Cobalt	2	mg/kg-dry	15.50	66.90	9.80	36.55
Copper	2	mg/kg-dry	2661	15908	226	1131
Iron	2	mg/kg-dry	60198	271227	15369	59567
Lead	2	mg/kg-dry	139	965	111	633
Magnesium	2	mg/kg-dry	9627	25000	3200	7553
Manganese	2	mg/kg-dry	1713	7922	436	1730
Mercury	2	mg/kg-dry	0.75	3.15	0.25	0.91
Nickel	2	mg/kg-dry	35.24	53.36	9.63	13.98
Potassium	2	mg/kg-dry	2767	21300	1042	6539
Selenium	2	mg/kg-dry	25.47	151.50	2.83	14.09
Silver	2	mg/kg-dry	0.23	1.39	1.05	5.22
Sodium	2	mg/kg-dry	1312	19300	532	5984
Thallium	2	mg/kg-dry	1.49	4.00	1.19	2.90
Uranium	2	mg/kg-dry	22.68	111.00	13.81	57.65

Table D-11. Estimated COI Concentrations in Benthic Invertebrates and Rooted Aquatic Macrophyte Tissues

Chemicals of Interest	Reach	Units	Estimated Benthic Invertebrate Tissue Concentrations [a, b] Mean	Max	Estimated Rooted Macrophyte Tissue Concentrations [c, d] Mean	Max
Vanadium	2	mg/kg-dry	10.00	26.53	17.92	43.13
Zinc	2	mg/kg-dry	31907	187422	1529	7526
TCDD-TEQ (Avian)	2	mg/kg-dry	3.95E-05	5.44E-05	6.79E-07	9.34E-07
TCDD-TEQ (Mammalian)	2	mg/kg-dry	5.51E-06	7.77E-06	9.46E-08	1.33E-07
Total DDx	2	mg/kg-dry	0.05	0.13	0.0001	0.0002
Total HPAHs	2	mg/kg-dry	0.32	0.85	0.001	0.004
Total LPAHs	2	mg/kg-dry	0.20	0.34	0.001	0.002
Total PCBs	2	mg/kg-dry	0.25	1.44	0.002	0.012
Aluminum	3	mg/kg-dry	4079	20083	5183	21759
Antimony	3	mg/kg-dry	5.93	42.50	4.13	24.30
Arsenic	3	mg/kg-dry	4.89	18.08	4.85	15.72
Barium	3	mg/kg-dry	1761	6440	199	640
Beryllium	3	mg/kg-dry	0.19	0.60	0.80	2.24
Cadmium	3	mg/kg-dry	17.77	58.33	1.71	4.98
Calcium	3	mg/kg-dry	16494	68700	5195	18761
Chromium	3	mg/kg-dry	15.38	51.01	19.28	56.71
Cobalt	3	mg/kg-dry	10.17	41.60	6.71	23.83
Copper	3	mg/kg-dry	1139	11760	105	861
Iron	3	mg/kg-dry	44530	290913	11717	63444
Lead	3	mg/kg-dry	112	698	91	473
Magnesium	3	mg/kg-dry	8505	22200	2862	6788
Manganese	3	mg/kg-dry	1210	7645	319	1675
Mercury	3	mg/kg-dry	0.63	3.44	0.21	0.98
Nickel	3	mg/kg-dry	40.44	122.50	10.89	29.54
Potassium	3	mg/kg-dry	4443	27000	1596	8095
Selenium	3	mg/kg-dry	20.77	152.80	2.36	14.20
Silver	3	mg/kg-dry	0.18	0.90	0.81	3.54
Sodium	3	mg/kg-dry	2244	19200	863	5956
Thallium	3	mg/kg-dry	1.42	3.55	1.14	2.60
Uranium	3	mg/kg-dry	16.64	78.40	10.45	42.16
Vanadium	3	mg/kg-dry	12.17	36.30	21.39	57.18
Zinc	3	mg/kg-dry	18584	186670	940	7499
TCDD-TEQ (Avian)	3	mg/kg-dry	1.79E-05	8.63E-05	3.07E-07	1.48E-06
TCDD-TEQ (Mammalian)	3	mg/kg-dry	2.58E-06	1.18E-05	4.44E-08	2.02E-07
Total DDx	3	mg/kg-dry	0.06	0.34	0.0001	0.0005
Total HPAHs	3	mg/kg-dry	0.27	1.11	0.001	0.005
Total LPAHs	3	mg/kg-dry	0.20	1.54	0.001	0.007
Total PCBs	3	mg/kg-dry	0.37	2.36	0.003	0.020
Aluminum	4a	mg/kg-dry	3988	19810	5078	21493
Antimony	4a	mg/kg-dry	2.38	7.15	1.81	4.89
Arsenic	4a	mg/kg-dry	4.24	13.94	4.26	12.44
Barium	4a	mg/kg-dry	1316	4960	153	506
Beryllium	4a	mg/kg-dry	0.20	0.60	0.82	2.24
Cadmium	4a	mg/kg-dry	23.76	113.46	2.22	9.06
Calcium	4a	mg/kg-dry	10980	38200	3602	11063
Chromium	4a	mg/kg-dry	12.80	35.94	16.33	41.38
Cobalt	4a	mg/kg-dry	8.41	20.00	5.65	12.33
Copper	4a	mg/kg-dry	269	798	29	76
Iron	4a	mg/kg-dry	22732	45934	6397	12048
Lead	4a	mg/kg-dry	91	510	75	357
Magnesium	4a	mg/kg-dry	7954	22400	2695	6843

Table D-11. Estimated COI Concentrations in Benthic Invertebrates and Rooted Aquatic Macrophyte Tissues

Chemicals of Interest	Reach	Units	Estimated Benthic Invertebrate Tissue Concentrations [a, b] Mean	Max	Estimated Rooted Macrophyte Tissue Concentrations [c, d] Mean	Max
Manganese	4a	mg/kg-dry	688	1875	192	473
Mercury	4a	mg/kg-dry	1.46	6.88	0.45	1.83
Nickel	4a	mg/kg-dry	47.26	88.16	12.53	21.97
Potassium	4a	mg/kg-dry	4300	26800	1549	8041
Selenium	4a	mg/kg-dry	15.27	50.93	1.79	5.28
Silver	4a	mg/kg-dry	0.18	0.52	0.85	2.17
Sodium	4a	mg/kg-dry	2091	23700	810	7199
Thallium	4a	mg/kg-dry	1.55	3.65	1.24	2.67
Uranium	4a	mg/kg-dry	12.85	29.20	8.28	17.33
Vanadium	4a	mg/kg-dry	11.86	33.99	20.89	53.90
Zinc	4a	mg/kg-dry	3097	12871	187	676
TCDD-TEQ (Avian)	4a	mg/kg-dry	3.23E-05	1.02E-04	5.55E-07	1.76E-06
TCDD-TEQ (Mammalian)	4a	mg/kg-dry	5.00E-06	1.56E-05	8.60E-08	2.68E-07
Total DDx	4a	mg/kg-dry	0.07	0.67	0.0001	0.0010
Total HPAHs	4a	mg/kg-dry	0.29	0.98	0.001	0.004
Total LPAHs	4a	mg/kg-dry	0.18	0.59	0.001	0.003
Total PCBs	4a	mg/kg-dry	0.45	6.41	0.004	0.053
Aluminum	4b	mg/kg-dry	3790	18893	4852	20595
Antimony	4b	mg/kg-dry	1.43	4.20	1.14	3.03
Arsenic	4b	mg/kg-dry	4.43	11.25	4.44	10.26
Barium	4b	mg/kg-dry	770	4720	95	484
Beryllium	4b	mg/kg-dry	0.21	0.54	0.87	2.03
Cadmium	4b	mg/kg-dry	15.13	101.47	1.48	8.19
Calcium	4b	mg/kg-dry	6471	20000	2238	6179
Chromium	4b	mg/kg-dry	13.02	47.27	16.59	52.95
Cobalt	4b	mg/kg-dry	9.48	18.40	6.30	11.44
Copper	4b	mg/kg-dry	164	512	18	51
Iron	4b	mg/kg-dry	23974	45934	6711	12048
Lead	4b	mg/kg-dry	51	510	45	357
Magnesium	4b	mg/kg-dry	6524	16000	2255	5055
Manganese	4b	mg/kg-dry	798	5216	219	1188
Mercury	4b	mg/kg-dry	0.84	5.16	0.28	1.41
Nickel	4b	mg/kg-dry	49.97	111.36	13.18	27.11
Potassium	4b	mg/kg-dry	3203	25000	1189	7553
Selenium	4b	mg/kg-dry	18.64	51.59	2.14	5.34
Silver	4b	mg/kg-dry	0.14	0.31	0.65	1.34
Sodium	4b	mg/kg-dry	1195	21000	489	6457
Thallium	4b	mg/kg-dry	1.66	3.70	1.31	2.70
Uranium	4b	mg/kg-dry	12.62	29.75	8.15	17.63
Vanadium	4b	mg/kg-dry	11.41	36.96	20.19	58.12
Zinc	4b	mg/kg-dry	1818	9258	116	502
TCDD-TEQ (Avian)	4b	mg/kg-dry	1.20E-05	6.82E-05	2.06E-07	1.17E-06
TCDD-TEQ (Mammalian)	4b	mg/kg-dry	2.00E-06	9.29E-06	3.43E-08	1.60E-07
Total DDx	4b	mg/kg-dry	0.26	13.60	0.0004	0.0200
Total HPAHs	4b	mg/kg-dry	0.23	1.80	0.001	0.008
Total LPAHs	4b	mg/kg-dry	0.16	0.41	0.001	0.002
Total PCBs	4b	mg/kg-dry	0.09	1.44	0.001	0.012
Aluminum	5	mg/kg-dry	4534	20802	5700	22459
Antimony	5	mg/kg-dry	4.46	9.30	3.19	6.19
Arsenic	5	mg/kg-dry	6.38	15.18	6.16	13.43
Barium	5	mg/kg-dry	836	4320	102	447

Table D-11. Estimated COI Concentrations in Benthic Invertebrates and Rooted Aquatic Macrophyte Tissues

Chemicals of Interest	Reach	Units	Estimated Benthic Invertebrate Tissue Concentrations [a, b] Mean	Max	Estimated Rooted Macrophyte Tissue Concentrations [c, d] Mean	Max
Beryllium	5	mg/kg-dry	0.24	0.58	0.99	2.17
Cadmium	5	mg/kg-dry	24.39	129.44	2.27	10.20
Calcium	5	mg/kg-dry	8775	40800	2944	11738
Chromium	5	mg/kg-dry	12.29	47.27	15.75	52.95
Cobalt	5	mg/kg-dry	9.92	19.40	6.56	12.00
Copper	5	mg/kg-dry	174	471	19	48
Iron	5	mg/kg-dry	26183	56870	7265	14602
Lead	5	mg/kg-dry	56	354	49	257
Magnesium	5	mg/kg-dry	7544	15700	2569	4969
Manganese	5	mg/kg-dry	1109	6161	295	1380
Mercury	5	mg/kg-dry	0.87	3.59	0.29	1.02
Nickel	5	mg/kg-dry	45.05	116.23	12.01	28.17
Potassium	5	mg/kg-dry	3854	25800	1404	7771
Selenium	5	mg/kg-dry	23.46	58.12	2.63	5.95
Silver	5	mg/kg-dry	0.16	0.28	0.74	1.23
Sodium	5	mg/kg-dry	1104	13000	456	4193
Thallium	5	mg/kg-dry	1.91	3.90	1.49	2.83
Uranium	5	mg/kg-dry	14.53	31.00	9.25	18.29
Vanadium	5	mg/kg-dry	11.68	41.25	20.61	64.15
Zinc	5	mg/kg-dry	2525	9409	156	510
TCDD-TEQ (Avian)	5	mg/kg-dry	5.40E-05	1.89E-04	9.29E-07	3.26E-06
TCDD-TEQ (Mammalian)	5	mg/kg-dry	8.70E-06	2.54E-05	1.50E-07	4.36E-07
Total DDx	5	mg/kg-dry	0.06	0.20	0.0001	0.0003
Total HPAHs	5	mg/kg-dry	0.25	1.28	0.001	0.006
Total LPAHs	5	mg/kg-dry	0.21	0.49	0.001	0.002
Total PCBs	5	mg/kg-dry	0.08	0.21	0.001	0.002
Aluminum	6	mg/kg-dry	4789	19289	5989	20984
Antimony	6	mg/kg-dry	2.73	9.55	2.05	6.34
Arsenic	6	mg/kg-dry	5.18	10.70	5.11	9.80
Barium	6	mg/kg-dry	857	4120	104	428
Beryllium	6	mg/kg-dry	0.25	0.54	1.03	2.03
Cadmium	6	mg/kg-dry	18.82	99.08	1.80	8.02
Calcium	6	mg/kg-dry	6463	18800	2236	5844
Chromium	6	mg/kg-dry	11.25	36.97	14.55	42.45
Cobalt	6	mg/kg-dry	8.70	19.40	5.83	12.00
Copper	6	mg/kg-dry	149	470	17	47
Iron	6	mg/kg-dry	25241	50090	7029	13025
Lead	6	mg/kg-dry	42	280	38	208
Magnesium	6	mg/kg-dry	7037	14000	2414	4482
Manganese	6	mg/kg-dry	1000	3733	269	879
Mercury	6	mg/kg-dry	0.90	5.16	0.29	1.41
Nickel	6	mg/kg-dry	38.51	90.94	10.43	22.59
Potassium	6	mg/kg-dry	4705	27500	1680	8230
Selenium	6	mg/kg-dry	23.53	56.16	2.64	5.77
Silver	6	mg/kg-dry	0.17	0.38	0.80	1.62
Sodium	6	mg/kg-dry	1777	17300	699	5423
Thallium	6	mg/kg-dry	2.08	5.25	1.61	3.70
Uranium	6	mg/kg-dry	16.03	42.15	10.10	24.12
Vanadium	6	mg/kg-dry	11.14	30.86	19.75	49.40
Zinc	6	mg/kg-dry	2081	9108	131	495
TCDD-TEQ (Avian)	6	mg/kg-dry	1.53E-05	1.04E-04	2.63E-07	1.78E-06
TCDD-TEQ (Mammalian)	6	mg/kg-dry	3.07E-06	1.93E-05	5.28E-08	3.31E-07

Table D-11. Estimated COI Concentrations in Benthic Invertebrates and Rooted Aquatic Macrophyte Tissues

Chemicals of Interest	Reach	Units	Estimated Benthic Invertebrate Tissue Concentrations [a, b]		Estimated Rooted Macrophyte Tissue Concentrations [c, d]	
			Mean	Max	Mean	Max
Total DDx	6	mg/kg-dry	0.07	1.25	0.0001	0.0018
Total HPAHs	6	mg/kg-dry	0.28	0.99	0.0012	0.0043
Total LPAHs	6	mg/kg-dry	0.22	0.55	0.0010	0.0026
Total PCBs	6	mg/kg-dry	0.09	0.25	0.0007	0.0021

Notes:

[a] Metal/metalloid concentrations calculated by the following equation:

Invertebrate tissue concentration = C_{sed} x BSAF

BSAF = Biota sediment accumulation factor (Table D-9)

C_{sed} = Sediment concentration (Table D-7)

[b] Organic chemical concentrations calculated using the following equation:

Invertebrate tissue concentration =

BSAF = Biota sediment accumulation factor (Table D-9)

C_{sed} = Sediment concentration (Table D-7)

f_{oc} = Mean Organic Carbon Fraction (Table D-9)

f_{lip} = Mean Lipid Fraction (Table D-9)

[c] Metal/metalloid concentrations calculated by the following equation:

Macrophyte tissue concentration = 10^(-0.08 x 0.9 x Log C_{sed})

C_{sed} = Sediment concentration (Table D-7)

Regression equation as shown in Table D-10

[d] Organic chemical concentrations calculated using the following equation:

Dioxins/Furans, Total HPAHs, Total LPAHs, Total DDx, Total PCBs

Macrophyte tissue concentration =

BSAF = Biota sediment accumulation factor (Table D-10)

C_{sed} = Sediment concentration (Table D-7)

f_{oc} = Mean Organic Carbon Fraction (Table D-10)

f_{lip} = Mean Lipid Fraction (Table D-10)

BSAF - Biota-sediment accumulation factor

95% UCL - 95th Percentile Upper Confidence Level

mg/kg-dry - milligrams per kilogram dry weight

TCDD-TEQ (Avian) - Tetrachloro-dibenzodioxin (TCDD) toxic equivalent concentration for avian species

TCDD-TEQ (Mammal) - Tetrachloro-dibenzodioxin (TCDD) toxic equivalent concentration for mammalian species

Total DDx - Total DDT and metabolite concentration

Total HPAHs - Total high molecular weight polyaromatic hydrocarbon concentrations

Total LPAHs - Total low molecular weight polyaromatic hydrocarbon concentrations

Total PCBs - Total polychlorinated biphenyl concentrations

Table D-12. Summary of Hazard Quotients by Receptor and COI

Receptor	Reach	Maximum Hazard Quotients [a]																				
		Metals/Metalloids																Organics				
		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium +3	Cobalt	Copper	Lead	Manganese	Methylmercury	Nickel	Selenium	Silver	Vanadium	Zinc	Dioxins/Furans	Total DDTs	Total HPAHs	Total LPAHs	Total PCBs
Avian Receptors																						
Great Blue Heron	1	-	0.3	0.2	-	0.4	0.7	0.1	**18**	**13**	0.3	**3.1**	0.1	**2.4**	0.0	**2.0**	**12**	0.2	0.0	0.2	0.0	0.1
	2	-	0.3	0.2	-	0.2	0.5	0.1	**16**	**7.5**	0.3	**3.6**	0.1	**2.7**	0.0	**1.6**	**11**	0.2	0.0	0.0	0.0	0.5
	3	-	0.2	0.1	-	0.2	0.4	0.0	**12**	**5.5**	0.3	**5.1**	0.1	**2.8**	0.0	**2.1**	**11**	0.1	0.0	0.0	0.0	0.1
	4a	-	0.2	0.1	-	0.3	0.4	0.0	0.9	**3.9**	0.1	**5.8**	0.1	**1.3**	0.0	**2.0**	**0.8**	0.2	0.0	0.0	0.0	0.3
	4b	-	0.2	0.1	-	0.3	0.4	0.0	0.6	**3.9**	0.2	**5.3**	0.1	**1.3**	0.0	**2.2**	**0.6**	0.2	0.2	0.0	0.0	0.2
	5	-	0.2	0.1	-	0.4	0.4	0.0	0.6	**2.6**	0.2	**4.8**	0.1	**1.3**	0.0	**2.4**	**0.6**	0.3	0.0	0.0	0.0	0.2
	6	-	0.2	0.1	-	0.3	0.3	0.0	0.6	**2.1**	0.1	**5.3**	0.1	**1.2**	0.0	**1.9**	**0.6**	0.3	0.0	0.0	0.0	0.1
Osprey	1	-	0.1	0.0	-	0.1	0.4	0.0	**2.0**	**3.6**	0.1	**3.3**	0.0	1.0	0.0	0.7	**1.1**	0.2	0.0	0.0	0.0	0.1
	2	-	0.2	0.0	-	0.1	0.2	0.0	**1.2**	**2.1**	0.1	**3.5**	0.0	1.0	0.0	0.5	0.7	0.2	0.0	0.0	0.0	0.6
	3	-	0.1	0.0	-	0.1	0.2	0.0	1.0	**1.7**	0.1	**5.2**	0.0	**1.1**	0.0	0.6	0.6	0.1	0.0	0.0	0.0	0.1
	4a	-	0.2	0.0	-	0.1	0.3	0.0	0.2	**1.1**	0.0	**5.0**	0.0	0.8	0.0	0.7	0.1	0.2	0.0	0.0	0.0	0.2
	4b	-	0.2	0.0	-	0.1	0.3	0.0	0.2	**1.1**	0.0	**5.0**	0.0	0.8	0.0	0.7	0.1	0.2	0.0	0.0	0.0	0.2
	5	-	0.2	0.0	-	0.1	0.2	0.0	0.1	0.6	0.0	**4.8**	0.0	0.7	0.0	0.7	0.1	0.2	0.0	0.0	0.0	0.2
	6	-	0.2	0.0	-	0.1	0.2	0.0	0.2	0.6	0.0	**4.9**	0.0	0.6	0.0	0.6	0.2	0.3	0.0	0.0	0.0	0.1
Bald Eagle	1	-	0.0	0.0	-	0.0	0.1	0.0	0.9	**1.9**	0.0	0.6	0.0	0.2	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0
	2	-	0.0	0.0	-	0.0	0.1	0.0	0.8	**1.1**	0.0	0.7	0.0	0.2	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.1
	3	-	0.0	0.0	-	0.0	0.1	0.0	0.6	0.8	0.0	**1.0**	0.0	0.3	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0
	4a	-	0.0	0.0	-	0.0	0.1	0.0	0.1	0.6	0.0	**1.0**	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
	4b	-	0.0	0.0	-	0.0	0.1	0.0	0.0	0.6	0.0	1.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	5	-	0.0	0.0	-	0.0	0.1	0.0	0.0	0.4	0.0	0.9	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	6	-	0.0	0.0	-	0.0	0.1	0.0	0.0	0.3	0.0	1.0	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
Belted Kingfisher	1	-	**1.6**	**3.1**	-	**6.4**	**2.6**	0.8	**280**	**73**	**3.0**	**11**	0.5	**30**	0.1	**7.5**	**198**	0.3	0.0	**3.9**	0.0	0.4
	2	-	**1.3**	**2.7**	-	**2.6**	**2.1**	0.6	**256**	**42**	**3.0**	**16**	0.6	**35**	0.1	**5.9**	**185**	0.6	0.0	0.4	0.0	**1.1**
	3	-	0.7	**2.0**	-	**2.7**	**1.5**	0.4	**190**	**31**	**2.9**	**19**	**1.2**	**36**	0.0	**8.0**	**184**	0.6	0.1	0.5	0.0	0.7
	4a	-	0.6	**1.6**	-	**5.1**	**1.2**	0.2	**13**	**22**	0.7	**31**	0.9	**12**	0.0	**7.6**	**13**	0.7	0.2	0.5	0.0	**1.7**
	4b	-	0.5	**1.5**	-	**4.6**	**1.5**	0.2	**8.4**	**22**	**2.0**	**25**	**1.1**	**13**	0.0	**8.3**	**9.2**	0.6	**3.9**	0.8	0.0	0.6
	5	-	0.7	**1.4**	-	**5.8**	**1.5**	0.2	**7.7**	**15**	**2.3**	**19**	**1.2**	**14**	0.0	**9.1**	**9.4**	**1.2**	0.1	0.6	0.0	0.3
	6	-	0.5	**1.3**	-	**4.5**	**1.2**	0.2	**7.7**	**12**	**1.4**	**25**	0.9	**13**	0.0	**7.0**	**9.1**	0.9	0.4	0.5	0.0	0.2
Canada Goose	1	-	**1.1**	0.3	-	0.5	**2.0**	0.4	**20**	**42**	0.6	**1.9**	0.1	**2.5**	0.2	**9.5**	**8.2**	0.0	0.0	0.0	0.0	0.0
	2	-	0.8	0.3	-	0.2	**1.8**	0.3	**18**	**25**	0.6	**3.0**	0.1	**2.9**	0.2	**7.7**	**7.7**	0.0	0.0	0.0	0.0	0.0
	3	-	0.4	0.2	-	0.2	**1.3**	0.2	**14**	**19**	0.6	**3.2**	0.3	**3.0**	0.1	**10**	**7.7**	0.0	0.0	0.0	0.0	0.0
	4a	-	0.3	0.2	-	0.4	1.0	0.1	**1.2**	**14**	0.2	**6.0**	0.2	**1.1**	0.1	**9.7**	0.7	0.0	0.0	0.0	0.0	0.0
	4b	-	0.3	0.1	-	0.3	**1.2**	0.1	0.8	**14**	0.4	**4.6**	0.2	**1.1**	0.0	**10**	0.5	0.0	0.0	0.0	0.0	0.0
	5	-	0.4	0.1	-	0.4	**1.2**	0.1	0.7	**10**	0.5	**3.3**	0.3	**1.2**	0.0	**12**	0.5	0.0	0.0	0.0	0.0	0.0
	6	-	0.3	0.1	-	0.3	1.0	0.1	0.7	**8.1**	0.3	**4.6**	0.2	**1.2**	0.0	**8.9**	0.5	0.0	0.0	0.0	0.0	0.0
Tundra Swan	1	-	0.8	0.2	-	0.3	**1.5**	0.3	**15**	**31**	0.5	**1.4**	0.1	**1.9**	0.2	**7.1**	**6.1**	0.0	0.0	0.0	0.0	0.0
	2	-	0.6	0.2	-	0.1	**1.3**	0.2	**14**	**19**	0.5	**2.2**	0.1	**2.2**	0.1	**5.7**	**5.8**	0.0	0.0	0.0	0.0	0.0
	3	-	0.3	0.1	-	0.2	1.0	0.1	**10**	**14**	0.5	**2.4**	0.2	**2.2**	0.1	**7.6**	**5.7**	0.0	0.0	0.0	0.0	0.0
	4a	-	0.2	0.1	-	0.3	0.7	0.1	0.9	**10**	0.1	**4.5**	0.1	0.8	0.0	**7.2**	0.5	0.0	0.0	0.0	0.0	0.0
	4b	-	0.2	0.1	-	0.2	0.9	0.1	0.6	**10**	0.3	**3.4**	0.2	0.8	0.0	**7.8**	0.4	0.0	0.0	0.0	0.0	0.0
	5	-	0.3	0.1	-	0.3	0.9	0.1	0.5	**7.4**	0.4	**2.5**	0.2	0.9	0.0	**8.6**	0.4	0.0	0.0	0.0	0.0	0.0
	6	-	0.2	0.1	-	0.2	0.7	0.1	0.5	**6.0**	0.2	**3.4**	0.2	0.9	0.0	**6.6**	0.4	0.0	0.0	0.0	0.0	0.0

Table D-12. Summary of Hazard Quotients by Receptor and COI

Receptor	Reach	Maximum Hazard Quotients [a]																				
		Metals/Metalloids																Organics				
		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium $^{+3}$	Cobalt	Copper	Lead	Manganese	Methylmercury	Nickel	Selenium	Silver	Vanadium	Zinc	Dioxins/Furans	Total DDTs	Total HPAHs	Total LPAHs	Total PCBs
Mallard	1	-	**1.0**	**1.3**	-	**2.6**	**1.6**	0.4	**112**	**42**	**1.4**	**3.5**	0.2	**12**	0.1	**6.4**	**77**	0.0	0.0	**1.5**	0.0	0.1
	2	-	0.7	**1.1**	-	1.0	**1.4**	0.3	**103**	**25**	**1.3**	**5.5**	0.2	**14**	0.1	**5.1**	**72**	0.1	0.0	0.1	0.0	0.1
	3	-	0.4	0.8	-	**1.1**	**1.0**	0.2	**76**	**18**	**1.3**	**6.0**	0.6	**14**	0.1	**6.9**	**72**	0.2	0.0	0.2	0.0	0.2
	4a	-	0.3	0.6	-	**2.0**	0.7	0.1	**5.3**	**13**	0.3	**12**	0.4	**4.7**	0.0	**6.5**	**5.0**	0.2	0.1	0.2	0.0	0.5
	4b	-	0.2	0.6	-	**1.8**	1.0	0.1	**3.4**	**13**	0.9	**9.0**	0.5	**4.8**	0.0	**7.0**	**3.6**	0.1	**1.5**	0.3	0.0	0.1
	5	-	0.3	0.6	-	**2.3**	1.0	0.1	**3.1**	**9**	**1.0**	**6.3**	0.5	**5.4**	0.0	**7.8**	**3.7**	0.3	0.0	0.2	0.0	0.0
	6	-	0.2	0.5	-	**1.8**	0.8	0.1	**3.1**	**8**	0.6	**9.0**	0.4	**5.2**	0.0	**5.9**	**3.5**	0.2	0.1	0.2	0.0	0.0
Lesser Scaup	1	-	0.7	0.8	-	**1.7**	**1.2**	0.3	**73**	**30.3**	0.9	**3.3**	0.1	**7.8**	0.1	**4.7**	**50**	0.1	0.0	0.9	0.0	0.1
	2	-	0.6	0.7	-	0.7	**1.0**	0.2	**67**	**17.8**	0.9	**4.8**	0.2	**9.3**	0.1	**3.8**	**46**	0.1	0.0	0.1	0.0	0.3
	3	-	0.3	0.5	-	0.7	0.8	0.1	**49**	**13.1**	0.9	**5.7**	0.4	**9.4**	0.0	**5.1**	**46**	0.1	0.0	0.1	0.0	0.2
	4a	-	0.3	0.4	-	**1.3**	0.6	0.1	**3.5**	**9.6**	0.2	**9.4**	0.3	**3.3**	0.0	**4.8**	**3.2**	0.2	0.0	0.1	0.0	0.4
	4b	-	0.2	0.4	-	**1.2**	0.7	0.1	**2.2**	**9.6**	0.6	**7.5**	0.3	**3.4**	0.0	**5.2**	**2.4**	0.1	0.9	0.2	0.0	0.2
	5	-	0.3	0.4	-	**1.5**	0.7	0.1	**2.1**	**6.7**	0.7	**5.7**	0.4	**3.7**	0.0	**5.7**	**2.4**	0.3	0.0	0.1	0.0	0.1
	6	-	0.2	0.4	-	**1.2**	0.6	0.1	**2.1**	**5.4**	0.4	**7.5**	0.3	**3.6**	0.0	**4.4**	**2.3**	0.2	0.1	0.1	0.0	0.1
Spotted Sandpiper	1	-	**6.3**	**10.7**	-	**22**	**9.3**	**2.9**	**971**	**293**	**11**	**25**	**1.6**	**99**	0.5	**33**	**681**	0.1	0.1	**13**	0.0	0.8
	2	-	**4.5**	**9.4**	-	**8.4**	**8.0**	**2.3**	**892**	**169**	**11**	**41**	**1.9**	**118**	0.3	**26**	**637**	0.9	0.1	**1.3**	0.0	**1.1**
	3	-	**2.2**	**7.1**	-	**8.9**	**5.8**	**1.4**	**659**	**122**	**10**	**45**	**4.3**	**119**	0.2	**36**	**635**	**1.4**	0.3	**1.8**	0.0	**1.8**
	4a	-	**1.7**	**5.5**	-	**17**	**4.1**	0.7	**45**	**89**	**2.6**	**89**	**3.1**	**40**	0.1	**34**	**44**	**1.7**	0.6	**1.6**	0.0	**4.9**
	4b	-	**1.4**	**5.2**	-	**16**	**5.4**	0.6	**29**	**89**	**7.1**	**67**	**3.9**	**40**	0.1	**36**	**31**	**1.1**	**13**	**2.9**	0.0	**1.1**
	5	-	**1.9**	**4.8**	-	**20**	**5.4**	0.7	**26**	**62**	**8.4**	**46**	**4.1**	**45**	0.1	**41**	**32**	**3.1**	0.2	**2.0**	0.0	0.2
	6	-	**1.3**	**4.5**	-	**15**	**4.2**	0.7	**26**	**49**	**5.1**	**67**	**3.2**	**44**	0.1	**30**	**31**	**1.7**	**1.2**	**1.6**	0.0	0.2
Swallow	1	-	**2.7**	**5.3**	-	**11**	**3.7**	**1.3**	**480**	**122**	**5.1**	**12**	0.8	**49**	0.2	**12**	**339**	0.0	0.1	**6.8**	0.0	0.4
	2	-	**1.9**	**4.6**	-	**4.2**	**3.2**	**1.0**	**441**	**70**	**5.1**	**20**	0.9	**59**	0.1	**9.6**	**318**	0.4	0.1	0.7	0.0	0.6
	3	-	1.0	**3.5**	-	**4.4**	**2.3**	0.6	**326**	**51**	**4.9**	**22**	**2.1**	**59**	0.1	**13**	**316**	0.7	0.2	0.9	0.0	0.9
	4a	-	0.7	**2.7**	-	**8.7**	**1.6**	0.3	**22**	**37**	**1.2**	**43**	**1.5**	**20**	0.0	**12**	**22**	0.8	0.3	0.8	0.0	**2.5**
	4b	-	0.6	**2.5**	-	**7.7**	**2.1**	0.3	**14**	**37**	**3.3**	**32**	**1.9**	**20**	0.0	**13**	**16**	0.5	**6.7**	**1.4**	0.0	0.6
	5	-	0.8	**2.3**	-	**9.9**	**2.1**	0.3	**13**	**26**	**3.9**	**23**	**2.0**	**22**	0.0	**15**	**16**	**1.5**	0.1	1.0	0.0	0.1
	6	-	0.6	**2.2**	-	**7.6**	**1.7**	0.3	**13**	**20**	**2.4**	**32**	**1.5**	**22**	0.0	**11**	**15**	0.8	0.6	0.8	0.0	0.1
Mammalian Receptors																						
Mink	1	**19**	0.4	0.8	0.0	0.8	0.5	0.1	**13**	**2.9**	0.9	**22**	0.2	**4.3**	0.0	0.1	**10.4**	**1.1**	0.0	0.1	0.0	**2.3**
	2	**5.6**	0.4	0.7	0.0	0.4	0.3	0.1	**11**	**1.7**	0.8	**26**	0.2	**5.0**	0.0	0.1	**9.6**	1.0	0.0	0.0	0.0	**10**
	3	**4.4**	0.2	0.5	0.0	0.4	0.2	0.0	**8.4**	**1.2**	0.8	**36**	0.4	**5.1**	0.0	0.1	**9.5**	0.6	0.0	0.0	0.0	**2.9**
	4a	0.8	0.3	0.4	0.0	0.6	0.3	0.0	0.6	0.9	0.2	**43**	0.3	**2.2**	0.0	0.1	0.7	1.0	0.0	0.0	0.0	**6.2**
	4b	0.5	0.2	0.4	0.0	0.6	0.3	0.0	0.4	0.9	0.5	**39**	0.4	**2.2**	0.0	0.1	0.5	1.0	0.3	0.0	0.0	**4.2**
	5	**1.1**	0.3	0.4	0.0	0.7	0.3	0.0	0.4	0.6	0.6	**34**	0.4	**2.2**	0.0	0.1	0.5	**1.1**	0.0	0.0	0.0	**3.5**
	6	**1.1**	0.2	0.4	0.0	0.5	0.2	0.0	0.4	0.5	0.4	**39**	0.3	**2.1**	0.0	0.1	0.5	**1.6**	0.0	0.0	0.0	**2.4**
River Otter	1	**16**	0.3	0.7	0.0	0.7	0.4	0.1	**12**	**2.4**	0.7	**17**	0.2	**3.9**	0.0	0.1	**9.8**	0.8	0.0	0.0	0.0	**1.8**
	2	**4.8**	0.3	0.6	0.0	0.3	0.3	0.0	**11**	**1.4**	0.7	**21**	0.2	**4.6**	0.0	0.1	**9.1**	0.7	0.0	0.0	0.0	**7.7**
	3	**3.8**	0.2	0.5	0.0	0.3	0.2	0.0	**7.9**	**1.0**	0.7	**29**	0.3	**4.7**	0.0	0.1	**9.0**	0.5	0.0	0.0	0.0	**2.4**
	4a	0.7	0.2	0.4	0.0	0.6	0.2	0.0	0.6	0.7	0.2	**35**	0.3	**1.9**	0.0	0.1	0.7	0.8	0.0	0.0	0.0	**5.2**
	4b	0.5	0.2	0.4	0.0	0.5	0.2	0.0	0.4	0.7	0.5	**31**	0.3	**1.9**	0.0	0.1	0.5	0.8	0.3	0.0	0.0	**3.3**
	5	0.9	0.2	0.3	0.0	0.6	0.2	0.0	0.3	0.5	0.5	**27**	0.3	**2.0**	0.0	0.1	0.5	0.8	0.0	0.0	0.0	**2.6**
	6	0.9	0.2	0.3	0.0	0.5	0.2	0.0	0.3	0.4	0.3	**31**	0.3	**1.9**	0.0	0.1	0.5	**1.2**	0.0	0.0	0.0	**1.8**

Table D-12. Summary of Hazard Quotients by Receptor and COI

Receptor	Reach	Maximum Hazard Quotients [a]																				
		Metals/Metalloids																Organics				
		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium $^{+3}$	Cobalt	Copper	Lead	Manganese	Methylmercury	Nickel	Selenium	Silver	Vanadium	Zinc	Dioxins/Furans	Total DDTs	Total HPAHs	Total LPAHs	Total PCBs
Little Brown Bat	1	**288**	**4.9**	**18**	0.1	**18**	**3.4**	**1.1**	**293**	**36**	**15**	**109**	**2.5**	**84**	0.0	0.8	**251**	0.1	0.1	**1.3**	0.0	**11**
	2	**89**	**3.5**	**16**	0.1	**6.8**	**3.0**	0.9	**269**	**21**	**15**	**177**	**3.0**	**100**	0.0	0.7	**235**	0.7	0.1	0.1	0.0	**15**
	3	**70**	**1.7**	**12**	0.1	**7.2**	**2.2**	0.6	**199**	**15**	**14**	**193**	**6.9**	**101**	0.0	0.9	**234**	**1.1**	0.2	0.2	0.0	**25**
	4a	**12**	**1.3**	**9.1**	0.1	**14**	**1.5**	0.3	**14**	**11**	**3.5**	**386**	**5.0**	**34**	0.0	0.9	**16**	**1.5**	0.4	0.1	0.0	**68**
	4b	**7**	**1.1**	**8.7**	0.1	**12**	**2.0**	0.2	**8.7**	**11**	**9.8**	**290**	**6.3**	**34**	0.0	0.9	**12**	0.9	**8.7**	0.3	0.0	**15**
	5	**15**	**1.5**	**7.9**	0.1	**16**	**2.0**	0.3	**8.0**	**7.5**	**12**	**201**	**6.5**	**38**	0.0	**1.0**	**12**	**2.4**	0.1	0.2	0.0	**2.2**
	6	**16**	**1.0**	**7.6**	0.1	**12**	**1.6**	0.3	**8.0**	**6.0**	**7.0**	**290**	**5.1**	**37**	0.0	0.8	**11**	**1.8**	0.8	0.2	0.0	**2.6**
Muskrat	1	**111**	**2.9**	**1.4**	0.2	**1.1**	**2.7**	0.5	**17**	**17**	**2.7**	**25**	0.5	**6.3**	0.1	1.0	**8.5**	0.0	0.0	0.0	0.0	0.1
	2	**38**	**2.2**	**1.2**	0.3	0.5	**2.4**	0.4	**16**	**10**	**2.6**	**39**	0.6	**7.4**	0.1	0.8	**8.0**	0.0	0.0	0.0	0.0	0.1
	3	**31**	**1.1**	1.0	0.3	0.5	**1.8**	0.2	**12**	**7.8**	**2.6**	**42**	**1.3**	**7.4**	0.0	**1.0**	**8.0**	0.0	0.0	0.0	0.0	0.2
	4a	**6.1**	0.9	0.8	0.3	0.9	**1.3**	0.1	**1.0**	**5.9**	0.7	**79**	1.0	**2.7**	0.0	1.0	0.7	0.0	0.0	0.0	0.0	0.5
	4b	**3.8**	0.7	0.7	0.3	0.8	**1.7**	0.1	0.7	**5.9**	**1.8**	**61**	**1.2**	**2.8**	0.0	**1.1**	0.5	0.0	0.0	0.0	0.0	0.1
	5	**7.8**	1.0	0.7	0.3	1.0	**1.7**	0.1	0.6	**4.2**	**2.1**	**44**	**1.2**	**3.1**	0.0	**1.2**	0.5	0.1	0.0	0.0	0.0	0.0
	6	**8.0**	0.7	0.6	0.3	0.8	**1.3**	0.1	0.6	**3.4**	**1.3**	**61**	1.0	**3.0**	0.0	0.9	0.5	0.0	0.0	0.0	0.0	0.0
Raccoon	1	**21**	0.4	**1.0**	0.0	0.9	0.3	0.1	**16**	**3.1**	1.0	**6.6**	0.2	**4.6**	0.0	0.1	**13**	0.0	0.0	0.1	0.0	0.6
	2	**6.5**	0.3	0.9	0.0	0.4	0.3	0.1	**15**	**1.8**	1.0	**11**	0.2	**5.4**	0.0	0.1	**13**	0.1	0.0	0.0	0.0	0.9
	3	**5.1**	0.1	0.7	0.0	0.4	0.2	0.0	**11**	**1.3**	0.9	**12**	0.4	**5.5**	0.0	0.1	**13**	0.1	0.0	0.0	0.0	**1.3**
	4a	0.9	0.1	0.5	0.0	0.7	0.1	0.0	0.7	0.9	0.2	**23**	0.3	**1.8**	0.0	0.1	0.9	0.1	0.0	0.0	0.0	**3.5**
	4b	0.5	0.1	0.5	0.0	0.7	0.2	0.0	0.5	0.9	0.6	**17**	0.4	**1.9**	0.0	0.1	0.6	0.1	0.4	0.0	0.0	0.8
	5	**1.1**	0.1	0.4	0.0	0.9	0.2	0.0	0.4	0.7	0.7	**12**	0.4	**2.1**	0.0	0.1	0.6	0.2	0.0	0.0	0.0	0.2
	6	**1.2**	0.1	0.4	0.0	0.7	0.2	0.0	0.4	0.5	0.5	**17**	0.3	**2.0**	0.0	0.1	0.6	0.1	0.0	0.0	0.0	0.2

Notes:

[a] Maximum concentrations were compared to NOAEL TRVs and the resulting hazard quotient is shown in the table.

HQ - Hazard Quotient

NOAEL - No Observed Adverse Effect Level

TRV - Toxicity Reference Value

A HQ = 0.0 indicates that the HQ was less than 0.1

Bold values indicate a HQ > 1.0

ATTACHMENT D-1

EXPOSURE AND RISK CALCULATIONS FOR AQUATIC-DEPENDENT WILDLIFE

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Great Blue Heron

			Diet (%)			
BW	2.390	kg				
FIR-dry	0.147	kg/d-dw				
FIR-wet	0.530	kg/d-ww	Fish	95%	Birds	0%
WIR	0.106	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0124	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0445	kg/d-ww	Aq. Inverts	5%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	9.02E-01	6.60E-01	1.56E+00	Not available	-
1_Arsenic	3.81E-05	3.86E-01	2.29E-01	6.14E-01	2.24	2.74E-01
1_Barium	Not available	1.26E+01	3.26E+01	4.52E+01	208.30	2.17E-01
1_Beryllium	Not available	9.33E-03	1.73E-03	1.11E-02	Not available	-
1_Cadmium	1.06E-05	9.33E-02	5.15E-01	6.08E-01	1.47	4.14E-01
1_Chromium +3	3.67E-05	8.97E-01	8.95E-01	1.79E+00	2.66	6.74E-01
1_Cobalt	Not available	4.44E-01	3.41E-01	7.85E-01	7.61	1.03E-01
1_Copper	2.03E-04	1.71E+01	5.61E+01	7.32E+01	4.05	**1.81E+01**
1_Lead	8.67E-05	1.43E+01	6.64E+00	2.09E+01	1.63	**1.29E+01**
1_Manganese	Not available	2.55E+01	3.06E+01	5.61E+01	179.00	3.13E-01
1_Mercury	8.85E-08	3.53E-03	5.29E-02	5.64E-02	0.018	**3.13E+00**
1_Methylmercury	Not available	3.53E-03	5.29E-02	5.64E-02	0.018	**3.13E+00**
1_Nickel	4.20E-05	1.01E-01	3.26E-01	4.27E-01	6.71	6.37E-02
1_Selenium	Not available	1.01E-01	5.99E-01	7.00E-01	0.29	**2.41E+00**
1_Silver	2.21E-06	6.53E-02	1.46E-02	7.99E-02	2.02	3.96E-02
1_Vanadium	Not available	5.24E-01	1.73E-01	6.97E-01	0.34	**2.03E+00**
1_Zinc	1.99E-03	1.38E+02	6.44E+02	7.82E+02	66.10	**1.18E+01**
1_TCDD (bird)	Not available	5.33E-09	2.68E-06	2.69E-06	1.40E-05	1.92E-01
1_TCDD (mammal)	Not available	1.82E-09	1.76E-06	1.76E-06	1.40E-05	1.26E-01
1_Total DDTs	Not available	1.84E-05	4.35E-04	4.53E-04	0.23	2.00E-03
1_Total HPAHs	Not available	3.22E-03	2.62E-02	2.94E-02	0.14	2.10E-01
1_Total LPAHs	Not available	4.64E-04	3.45E-03	3.92E-03	7.70	5.09E-04
1_Total PCBs	Not available	2.07E-04	3.03E-02	3.05E-02	0.29	1.05E-01
2_Antimony	Not available	2.79E-01	1.79E-01	4.58E-01	Not available	-
2_Arsenic	Not available	2.76E-01	3.26E-01	6.02E-01	2.24	2.69E-01
2_Barium	Not available	1.10E+01	2.78E+01	3.88E+01	208.30	1.86E-01
2_Beryllium	Not available	1.24E-02	2.13E-03	1.46E-02	Not available	-
2_Cadmium	Not available	3.58E-02	2.76E-01	3.12E-01	1.47	2.12E-01
2_Chromium +3	Not available	7.78E-01	5.30E-01	1.31E+00	2.66	4.91E-01
2_Cobalt	Not available	3.47E-01	2.20E-01	5.67E-01	7.61	7.45E-02
2_Copper	Not available	1.57E+01	4.95E+01	6.52E+01	4.05	**1.61E+01**
2_Lead	Not available	8.24E+00	3.93E+00	1.22E+01	1.63	**7.47E+00**
2_Manganese	Not available	2.52E+01	2.60E+01	5.12E+01	179.00	2.86E-01
2_Mercury	Not available	5.70E-03	5.91E-02	6.48E-02	0.0180	**3.60E+00**
2_Methylmercury	Not available	5.70E-03	5.91E-02	6.48E-02	0.0180	**3.60E+00**
2_Nickel	Not available	1.19E-01	3.17E-01	4.36E-01	6.71	6.49E-02
2_Selenium	Not available	1.20E-01	6.74E-01	7.95E-01	0.29	**2.74E+00**
2_Silver	Not available	3.99E-02	1.22E-02	5.21E-02	2.02	2.58E-02
2_Vanadium	Not available	4.17E-01	1.21E-01	5.37E-01	0.34	**1.56E+00**
2_Zinc	Not available	1.29E+02	5.84E+02	7.13E+02	66.10	**1.08E+01**
2_TCDD (bird)	Not available	8.26E-08	2.96E-06	3.04E-06	1.40E-05	2.17E-01
2_TCDD (mammal)	Not available	1.18E-08	1.55E-06	1.56E-06	1.40E-05	1.12E-01
2_Total DDTs	Not available	1.68E-05	3.98E-04	4.15E-04	0.23	1.83E-03
2_Total HPAHs	Not available	3.21E-04	2.61E-03	2.93E-03	0.14	2.09E-02

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Great Blue Heron

BW	2.390	kg
FIR-dry	0.147	kg/d-dw
FIR-wet	0.530	kg/d-ww
WIR	0.106	L/d
SIR-dry	0.0124	kg/d-dw
SIR-wet	0.0445	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	95%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	5%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	1.40E-04	1.04E-03	1.18E-03	7.70	1.54E-04
2_Total PCBs	Not available	2.85E-04	1.41E-01	1.41E-01	0.29	4.87E-01
3_Antimony	Not available	2.20E-01	1.43E-01	3.63E-01	Not available	-
3_Arsenic	Not available	1.36E-01	2.47E-01	3.83E-01	2.24	1.71E-01
3_Barium	Not available	8.35E+00	2.16E+01	2.99E+01	208.30	1.44E-01
3_Beryllium	Not available	1.56E-02	2.44E-03	1.80E-02	Not available	-
3_Cadmium	Not available	3.78E-02	2.80E-01	3.18E-01	1.47	2.16E-01
3_Chromium +3	Not available	5.65E-01	3.92E-01	9.57E-01	2.66	3.60E-01
3_Cobalt	Not available	2.16E-01	1.43E-01	3.59E-01	7.61	4.71E-02
3_Copper	Not available	1.16E+01	3.69E+01	4.85E+01	4.05	**1.20E+01**
3_Lead	Not available	5.96E+00	3.04E+00	9.00E+00	1.63	**5.52E+00**
3_Manganese	Not available	2.43E+01	2.54E+01	4.97E+01	179.00	2.78E-01
3_Mercury	Not available	6.22E-03	8.53E-02	9.15E-02	0.0180	**5.09E+00**
3_Methylmercury	Not available	6.22E-03	8.53E-02	9.15E-02	0.0180	**5.09E+00**
3_Nickel	Not available	2.74E-01	5.07E-01	7.81E-01	6.71	1.16E-01
3_Selenium	Not available	1.21E-01	7.02E-01	8.23E-01	0.29	**2.84E+00**
3_Silver	Not available	2.59E-02	1.01E-02	3.60E-02	2.02	1.78E-02
3_Vanadium	Not available	5.70E-01	1.60E-01	7.30E-01	0.34	**2.12E+00**
3_Zinc	Not available	1.29E+02	5.81E+02	7.10E+02	66.10	**1.07E+01**
3_TCDD (bird)	Not available	1.31E-07	1.93E-06	2.06E-06	1.40E-05	1.47E-01
3_TCDD (mammal)	Not available	1.79E-08	9.28E-07	9.46E-07	1.40E-05	6.76E-02
3_Total DDTs	Not available	4.41E-05	1.04E-03	1.09E-03	0.23	4.79E-03
3_Total HPAHs	Not available	4.20E-04	3.41E-03	3.83E-03	0.14	2.74E-02
3_Total LPAHs	Not available	6.38E-04	4.75E-03	5.39E-03	7.70	6.99E-04
3_Total PCBs	Not available	4.67E-04	3.50E-02	3.54E-02	0.29	1.22E-01
4a_Antimony	Not available	3.71E-02	3.38E-02	7.09E-02	Not available	-
4a_Arsenic	Not available	1.05E-01	3.11E-01	4.16E-01	2.24	1.86E-01
4a_Barium	Not available	6.43E+00	1.71E+01	2.36E+01	208.30	1.13E-01
4a_Beryllium	Not available	1.56E-02	2.44E-03	1.80E-02	Not available	-
4a_Cadmium	Not available	7.36E-02	4.27E-01	5.00E-01	1.47	3.40E-01
4a_Chromium +3	Not available	3.98E-01	5.67E-01	9.65E-01	2.66	3.63E-01
4a_Cobalt	Not available	1.04E-01	8.58E-02	1.89E-01	7.61	2.49E-02
4a_Copper	Not available	7.88E-01	2.87E+00	3.66E+00	4.05	9.03E-01
4a_Lead	Not available	4.36E+00	2.07E+00	6.43E+00	1.63	**3.94E+00**
4a_Manganese	Not available	5.96E+00	7.87E+00	1.38E+01	179.00	7.72E-02
4a_Mercury	Not available	1.24E-02	9.13E-02	1.04E-01	0.0180	**5.77E+00**
4a_Methylmercury	Not available	1.24E-02	9.13E-02	1.04E-01	0.0180	**5.77E+00**
4a_Nickel	Not available	1.97E-01	4.65E-01	6.62E-01	6.71	9.86E-02
4a_Selenium	Not available	4.04E-02	3.47E-01	3.88E-01	0.29	**1.34E+00**
4a_Silver	Not available	1.50E-02	8.94E-03	2.40E-02	2.02	1.19E-02
4a_Vanadium	Not available	5.34E-01	1.69E-01	7.03E-01	0.34	**2.04E+00**
4a_Zinc	Not available	8.86E+00	4.54E+01	5.42E+01	66.10	8.21E-01
4a_TCDD (bird)	Not available	1.56E-07	2.53E-06	2.68E-06	1.40E-05	1.92E-01
4a_TCDD (mammal)	Not available	2.37E-08	1.59E-06	1.61E-06	1.40E-05	1.15E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Great Blue Heron

BW	2.390	kg					
FIR-dry	0.147	kg/d-dw	Diet (%)				
FIR-wet	0.530	kg/d-ww	Fish	95%	Birds	0%	
WIR	0.106	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0124	kg/d-dw	Mussels	0%	Reptiles	0%	
SIR-wet	0.0445	kg/d-ww	Aq. Inverts	5%	Ter. Inverts	0%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	8.71E-05	2.06E-03	2.15E-03	0.23	9.47E-03
4a_Total HPAHs	Not available	3.71E-04	3.01E-03	3.38E-03	0.14	2.42E-02
4a_Total LPAHs	Not available	2.46E-04	1.83E-03	2.08E-03	7.70	2.70E-04
4a_Total PCBs	Not available	1.26E-03	7.20E-02	7.33E-02	0.29	2.53E-01
4b_Antimony	Not available	2.18E-02	2.47E-02	4.65E-02	Not available	-
4b_Arsenic	Not available	8.45E-02	3.03E-01	3.87E-01	2.24	1.73E-01
4b_Barium	Not available	6.12E+00	1.64E+01	2.25E+01	208.30	1.08E-01
4b_Beryllium	Not available	1.40E-02	2.25E-03	1.62E-02	Not available	-
4b_Cadmium	Not available	6.58E-02	3.90E-01	4.56E-01	1.47	3.10E-01
4b_Chromium +3	Not available	5.24E-01	6.02E-01	1.13E+00	2.66	4.23E-01
4b_Cobalt	Not available	9.54E-02	8.08E-02	1.76E-01	7.61	2.32E-02
4b_Copper	Not available	5.05E-01	1.99E+00	2.49E+00	4.05	6.15E-01
4b_Lead	Not available	4.36E+00	2.07E+00	6.43E+00	1.63	**3.94E+00**
4b_Manganese	Not available	1.66E+01	1.82E+01	3.48E+01	179.00	1.94E-01
4b_Mercury	Not available	9.33E-03	8.60E-02	9.53E-02	0.0180	**5.30E+00**
4b_Methylmercury	Not available	9.33E-03	8.60E-02	9.53E-02	0.0180	**5.30E+00**
4b_Nickel	Not available	2.49E-01	5.37E-01	7.85E-01	6.71	1.17E-01
4b_Selenium	Not available	4.10E-02	3.49E-01	3.90E-01	0.29	**1.35E+00**
4b_Silver	Not available	8.81E-03	8.27E-03	1.71E-02	2.02	8.46E-03
4b_Vanadium	Not available	5.81E-01	1.79E-01	7.59E-01	0.34	**2.21E+00**
4b_Zinc	Not available	6.38E+00	3.42E+01	4.06E+01	66.10	6.14E-01
4b_TCDD (bird)	Not available	1.04E-07	2.42E-06	2.53E-06	1.40E-05	1.80E-01
4b_TCDD (mammal)	Not available	1.41E-08	1.57E-06	1.58E-06	1.40E-05	1.13E-01
4b_Total DDTs	Not available	1.77E-03	4.20E-02	4.37E-02	0.23	1.93E-01
4b_Total HPAHs	Not available	6.84E-04	5.56E-03	6.24E-03	0.14	4.46E-02
4b_Total LPAHs	Not available	1.71E-04	1.27E-03	1.44E-03	7.70	1.88E-04
4b_Total PCBs	Not available	2.85E-04	5.67E-02	5.70E-02	0.29	1.97E-01
5_Antimony	Not available	4.82E-02	4.04E-02	8.86E-02	Not available	-
5_Arsenic	Not available	1.14E-01	3.33E-01	4.47E-01	2.24	2.00E-01
5_Barium	Not available	5.60E+00	1.58E+01	2.14E+01	208.30	1.02E-01
5_Beryllium	Not available	1.50E-02	2.38E-03	1.74E-02	Not available	-
5_Cadmium	Not available	8.40E-02	4.64E-01	5.48E-01	1.47	3.73E-01
5_Chromium +3	Not available	5.24E-01	5.64E-01	1.09E+00	2.66	4.09E-01
5_Cobalt	Not available	1.01E-01	7.98E-02	1.80E-01	7.61	2.37E-02
5_Copper	Not available	4.65E-01	1.82E+00	2.28E+00	4.05	5.64E-01
5_Lead	Not available	3.02E+00	1.26E+00	4.28E+00	1.63	**2.62E+00**
5_Manganese	Not available	1.96E+01	2.09E+01	4.05E+01	179.00	2.26E-01
5_Mercury	Not available	6.48E-03	7.98E-02	8.62E-02	0.0180	**4.79E+00**
5_Methylmercury	Not available	6.48E-03	7.98E-02	8.62E-02	0.0180	**4.79E+00**
5_Nickel	Not available	2.60E-01	5.05E-01	7.65E-01	6.71	1.14E-01
5_Selenium	Not available	4.61E-02	3.33E-01	3.79E-01	0.29	**1.31E+00**
5_Silver	Not available	8.04E-03	8.19E-03	1.62E-02	2.02	8.03E-03
5_Vanadium	Not available	6.48E-01	1.78E-01	8.26E-01	0.34	**2.40E+00**
5_Zinc	Not available	6.48E+00	3.46E+01	4.11E+01	66.10	6.22E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Great Blue Heron

BW	2.390	kg				
FIR-dry	0.147	kg/d-dw	Diet (%)			
FIR-wet	0.530	kg/d-ww	Fish	95%	Birds	0%
WIR	0.106	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0124	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0445	kg/d-ww	Aq. Inverts	5%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	2.88E-07	3.29E-06	3.58E-06	1.40E-05	2.56E-01
5_TCDD (mammal)	Not available	3.86E-08	1.68E-06	1.72E-06	1.40E-05	1.23E-01
5_Total DDTs	Not available	2.66E-05	6.31E-04	6.58E-04	0.23	2.90E-03
5_Total HPAHs	Not available	4.87E-04	3.96E-03	4.45E-03	0.14	3.18E-02
5_Total LPAHs	Not available	2.02E-04	1.51E-03	1.71E-03	7.70	2.22E-04
5_Total PCBs	Not available	4.15E-05	4.92E-02	4.93E-02	0.29	1.70E-01
6_Antimony	Not available	4.95E-02	4.21E-02	9.16E-02	Not available	-
6_Arsenic	Not available	8.04E-02	2.95E-01	3.75E-01	2.24	1.68E-01
6_Barium	Not available	5.34E+00	1.47E+01	2.01E+01	208.30	9.64E-02
6_Beryllium	Not available	1.40E-02	2.28E-03	1.63E-02	Not available	-
6_Cadmium	Not available	6.43E-02	3.71E-01	4.35E-01	1.47	2.96E-01
6_Chromium +3	Not available	4.10E-01	5.03E-01	9.12E-01	2.66	3.43E-01
6_Cobalt	Not available	1.01E-01	7.69E-02	1.77E-01	7.61	2.33E-02
6_Copper	Not available	4.64E-01	1.89E+00	2.35E+00	4.05	5.81E-01
6_Lead	Not available	2.40E+00	1.06E+00	3.46E+00	1.63	**2.12E+00**
6_Manganese	Not available	1.19E+01	1.33E+01	2.52E+01	179.00	1.41E-01
6_Mercury	Not available	9.33E-03	8.55E-02	9.48E-02	0.0180	**5.27E+00**
6_Methylmercury	Not available	9.33E-03	8.55E-02	9.48E-02	0.0180	**5.27E+00**
6_Nickel	Not available	2.03E-01	4.45E-01	6.49E-01	6.71	9.67E-02
6_Selenium	Not available	4.46E-02	3.14E-01	3.59E-01	0.29	**1.24E+00**
6_Silver	Not available	1.09E-02	8.50E-03	1.94E-02	2.02	9.59E-03
6_Vanadium	Not available	4.85E-01	1.66E-01	6.50E-01	0.34	**1.89E+00**
6_Zinc	Not available	6.27E+00	3.47E+01	4.10E+01	66.10	6.20E-01
6_TCDD (bird)	Not available	1.58E-07	4.10E-06	4.26E-06	1.40E-05	3.04E-01
6_TCDD (mammal)	Not available	2.93E-08	2.46E-06	2.49E-06	1.40E-05	1.78E-01
6_Total DDTs	Not available	1.62E-04	3.84E-03	4.01E-03	0.23	1.76E-02
6_Total HPAHs	Not available	3.76E-04	3.06E-03	3.43E-03	0.14	2.45E-02
6_Total LPAHs	Not available	2.28E-04	1.70E-03	1.93E-03	7.70	2.50E-04
6_Total PCBs	Not available	4.92E-05	3.40E-02	3.41E-02	0.29	1.18E-01

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Osprey

BW	1.486	kg
FIR-dry	0.108	kg/d-dw
FIR-wet	0.386	kg/d-ww
WIR	0.077	L/d
SIR-dry	0.0022	kg/d-dw
SIR-wet	0.0077	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	100%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	2.52E-01	1.52E-01	4.04E-01	Not available	-
1_Arsenic	4.45E-05	1.08E-01	8.69E-02	1.95E-01	2.24	8.69E-02
1_Barium	Not available	3.53E+00	3.02E+00	6.56E+00	208.30	3.15E-02
1_Beryllium	Not available	2.61E-03	7.61E-04	3.37E-03	Not available	-
1_Cadmium	1.24E-05	2.61E-02	8.69E-02	1.13E-01	1.47	7.69E-02
1_Chromium +3	4.30E-05	2.51E-01	7.97E-01	1.05E+00	2.66	3.94E-01
1_Cobalt	Not available	1.24E-01	9.42E-02	2.18E-01	7.61	2.87E-02
1_Copper	2.37E-04	4.78E+00	3.27E+00	8.05E+00	4.05	**1.99E+00**
1_Lead	1.01E-04	4.00E+00	1.82E+00	5.82E+00	1.63	**3.57E+00**
1_Manganese	Not available	7.13E+00	7.19E+00	1.43E+01	179.00	8.00E-02
1_Mercury	1.04E-07	9.85E-04	5.79E-02	5.88E-02	0.018	**3.27E+00**
1_Methylmercury	Not available	9.85E-04	5.79E-02	5.88E-02	0.018	**3.27E+00**
1_Nickel	4.92E-05	2.81E-02	2.32E-01	2.60E-01	6.71	3.87E-02
1_Selenium	Not available	2.82E-02	2.54E-01	2.82E-01	0.29	9.74E-01
1_Silver	2.59E-06	1.83E-02	9.42E-03	2.77E-02	2.02	1.37E-02
1_Vanadium	Not available	1.46E-01	8.69E-02	2.33E-01	0.34	6.78E-01
1_Zinc	2.33E-03	3.85E+01	3.27E+01	7.13E+01	66.10	**1.08E+00**
1_TCDD (bird)	Not available	1.49E-09	3.30E-06	3.30E-06	1.40E-05	2.36E-01
1_TCDD (mammal)	Not available	5.10E-10	2.17E-06	2.17E-06	1.40E-05	1.55E-01
1_Total DDTs	Not available	5.13E-06	0.00E+00	5.13E-06	0.23	2.26E-05
1_Total HPAHs	Not available	9.01E-04	0.00E+00	9.01E-04	0.14	6.44E-03
1_Total LPAHs	Not available	1.30E-04	0.00E+00	1.30E-04	7.70	1.68E-05
1_Total PCBs	Not available	5.79E-05	3.34E-02	3.35E-02	0.29	1.16E-01
2_Antimony	Not available	7.81E-02	1.56E-02	9.37E-02	Not available	-
2_Arsenic	Not available	7.71E-02	2.63E-01	3.40E-01	2.24	1.52E-01
2_Barium	Not available	3.09E+00	1.85E+00	4.94E+00	208.30	2.37E-02
2_Beryllium	Not available	3.48E-03	7.96E-04	4.27E-03	Not available	-
2_Cadmium	Not available	1.00E-02	1.30E-01	1.40E-01	1.47	9.55E-02
2_Chromium +3	Not available	2.17E-01	3.87E-01	6.04E-01	2.66	2.27E-01
2_Cobalt	Not available	9.69E-02	1.67E-02	1.14E-01	7.61	1.49E-02
2_Copper	Not available	4.39E+00	4.91E-01	4.88E+00	4.05	**1.21E+00**
2_Lead	Not available	2.30E+00	1.17E+00	3.48E+00	1.63	**2.13E+00**
2_Manganese	Not available	7.04E+00	1.94E+00	8.98E+00	179.00	5.02E-02
2_Mercury	Not available	1.59E-03	6.10E-02	6.26E-02	0.0180	**3.48E+00**
2_Methylmercury	Not available	1.59E-03	6.10E-02	6.26E-02	0.0180	**3.48E+00**
2_Nickel	Not available	3.33E-02	1.88E-01	2.21E-01	6.71	3.29E-02
2_Selenium	Not available	3.36E-02	2.56E-01	2.89E-01	0.29	9.98E-01
2_Silver	Not available	1.12E-02	9.78E-03	2.09E-02	2.02	1.04E-02
2_Vanadium	Not available	1.16E-01	4.78E-02	1.64E-01	0.34	4.78E-01
2_Zinc	Not available	3.61E+01	7.46E+00	4.35E+01	66.10	6.59E-01
2_TCDD (bird)	Not available	2.31E-08	3.45E-06	3.47E-06	1.40E-05	2.48E-01
2_TCDD (mammal)	Not available	3.30E-09	1.89E-06	1.89E-06	1.40E-05	1.35E-01
2_Total DDTs	Not available	4.69E-06	0.00E+00	4.69E-06	0.23	2.07E-05
2_Total HPAHs	Not available	8.98E-05	0.00E+00	8.98E-05	0.14	6.42E-04
2_Total LPAHs	Not available	3.91E-05	0.00E+00	3.91E-05	7.70	5.08E-06

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Osprey

BW	1.486	kg					
FIR-dry	0.108	kg/d-dw	Diet (%)				
FIR-wet	0.386	kg/d-ww	Fish	100%	Birds	0%	
WIR	0.077	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0022	kg/d-dw	Mussels	0%	Reptiles	0%	
SIR-wet	0.0077	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	0%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total PCBs	Not available	7.97E-05	1.69E-01	1.69E-01	0.29	5.82E-01
3_Antimony	Not available	6.16E-02	1.45E-02	7.61E-02	Not available	-
3_Arsenic	Not available	3.80E-02	2.36E-01	2.74E-01	2.24	1.22E-01
3_Barium	Not available	2.33E+00	2.13E+00	4.46E+00	208.30	2.14E-02
3_Beryllium	Not available	4.35E-03	7.24E-04	5.07E-03	Not available	-
3_Cadmium	Not available	1.06E-02	1.23E-01	1.34E-01	1.47	9.10E-02
3_Chromium +3	Not available	1.58E-01	2.90E-01	4.48E-01	2.66	1.68E-01
3_Cobalt	Not available	6.03E-02	1.81E-02	7.84E-02	7.61	1.03E-02
3_Copper	Not available	3.25E+00	7.16E-01	3.96E+00	4.05	9.78E-01
3_Lead	Not available	1.67E+00	1.09E+00	2.76E+00	1.63	**1.69E+00**
3_Manganese	Not available	6.79E+00	2.23E+00	9.03E+00	179.00	5.04E-02
3_Mercury	Not available	1.74E-03	9.23E-02	9.40E-02	0.0180	**5.22E+00**
3_Methylmercury	Not available	1.74E-03	9.23E-02	9.40E-02	0.0180	**5.22E+00**
3_Nickel	Not available	7.65E-02	1.59E-01	2.36E-01	6.71	3.51E-02
3_Selenium	Not available	3.39E-02	2.85E-01	3.19E-01	0.29	**1.10E+00**
3_Silver	Not available	7.24E-03	9.05E-03	1.63E-02	2.02	8.07E-03
3_Vanadium	Not available	1.59E-01	5.94E-02	2.19E-01	0.34	6.36E-01
3_Zinc	Not available	3.59E+01	6.77E+00	4.27E+01	66.10	6.46E-01
3_TCDD (bird)	Not available	3.66E-08	2.06E-06	2.10E-06	1.40E-05	1.50E-01
3_TCDD (mammal)	Not available	5.00E-09	1.10E-06	1.11E-06	1.40E-05	7.90E-02
3_Total DDTs	Not available	1.23E-05	0.00E+00	1.23E-05	0.23	5.42E-05
3_Total HPAHs	Not available	1.17E-04	0.00E+00	1.17E-04	0.14	8.38E-04
3_Total LPAHs	Not available	1.78E-04	0.00E+00	1.78E-04	7.70	2.31E-05
3_Total PCBs	Not available	1.30E-04	3.42E-02	3.43E-02	0.29	1.18E-01
4a_Antimony	Not available	1.04E-02	1.45E-02	2.48E-02	Not available	-
4a_Arsenic	Not available	2.93E-02	3.31E-01	3.60E-01	2.24	1.61E-01
4a_Barium	Not available	1.80E+00	2.27E+00	4.07E+00	208.30	1.95E-02
4a_Beryllium	Not available	4.35E-03	7.24E-04	5.07E-03	Not available	-
4a_Cadmium	Not available	2.06E-02	9.42E-02	1.15E-01	1.47	7.81E-02
4a_Chromium +3	Not available	1.11E-01	5.64E-01	6.75E-01	2.66	2.54E-01
4a_Cobalt	Not available	2.90E-02	2.97E-02	5.87E-02	7.61	7.71E-03
4a_Copper	Not available	2.20E-01	5.03E-01	7.24E-01	4.05	1.79E-01
4a_Lead	Not available	1.22E+00	6.07E-01	1.83E+00	1.63	**1.12E+00**
4a_Manganese	Not available	1.67E+00	2.57E+00	4.24E+00	179.00	2.37E-02
4a_Mercury	Not available	3.48E-03	8.66E-02	9.01E-02	0.0180	**5.00E+00**
4a_Methylmercury	Not available	3.48E-03	8.66E-02	9.01E-02	0.0180	**5.00E+00**
4a_Nickel	Not available	5.50E-02	2.38E-01	2.93E-01	6.71	4.37E-02
4a_Selenium	Not available	1.13E-02	2.35E-01	2.46E-01	0.29	8.48E-01
4a_Silver	Not available	4.20E-03	9.05E-03	1.33E-02	2.02	6.56E-03
4a_Vanadium	Not available	1.49E-01	7.97E-02	2.29E-01	0.34	6.65E-01
4a_Zinc	Not available	2.48E+00	7.00E+00	9.47E+00	66.10	1.43E-01
4a_TCDD (bird)	Not available	4.35E-08	2.73E-06	2.78E-06	1.40E-05	1.98E-01
4a_TCDD (mammal)	Not available	6.63E-09	1.90E-06	1.91E-06	1.40E-05	1.36E-01
4a_Total DDTs	Not available	2.43E-05	0.00E+00	2.43E-05	0.23	1.07E-04
4a_Total HPAHs	Not available	1.04E-04	0.00E+00	1.04E-04	0.14	7.40E-04

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Osprey

BW	1.486	kg
FIR-dry	0.108	kg/d-dw
FIR-wet	0.386	kg/d-ww
WIR	0.077	L/d
SIR-dry	0.0022	kg/d-dw
SIR-wet	0.0077	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	100%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total LPAHs	Not available	6.88E-05	0.00E+00	6.88E-05	7.70	8.94E-06
4a_Total PCBs	Not available	3.53E-04	6.45E-02	6.49E-02	0.29	2.24E-01
4b_Antimony	Not available	6.08E-03	1.45E-02	2.06E-02	Not available	-
4b_Arsenic	Not available	2.36E-02	3.31E-01	3.55E-01	2.24	1.58E-01
4b_Barium	Not available	1.71E+00	2.27E+00	3.98E+00	208.30	1.91E-02
4b_Beryllium	Not available	3.91E-03	7.24E-04	4.64E-03	Not available	-
4b_Cadmium	Not available	1.84E-02	9.42E-02	1.13E-01	1.47	7.66E-02
4b_Chromium +3	Not available	1.46E-01	5.64E-01	7.10E-01	2.66	2.67E-01
4b_Cobalt	Not available	2.67E-02	2.97E-02	5.64E-02	7.61	7.41E-03
4b_Copper	Not available	1.41E-01	5.03E-01	6.45E-01	4.05	1.59E-01
4b_Lead	Not available	1.22E+00	6.07E-01	1.83E+00	1.63	**1.12E+00**
4b_Manganese	Not available	4.64E+00	2.57E+00	7.21E+00	179.00	4.03E-02
4b_Mercury	Not available	2.61E-03	8.66E-02	8.92E-02	0.0180	**4.95E+00**
4b_Methylmercury	Not available	2.61E-03	8.66E-02	8.92E-02	0.0180	**4.95E+00**
4b_Nickel	Not available	6.95E-02	2.38E-01	3.08E-01	6.71	4.59E-02
4b_Selenium	Not available	1.14E-02	2.35E-01	2.46E-01	0.29	8.49E-01
4b_Silver	Not available	2.46E-03	9.05E-03	1.15E-02	2.02	5.70E-03
4b_Vanadium	Not available	1.62E-01	7.97E-02	2.42E-01	0.34	7.03E-01
4b_Zinc	Not available	1.78E+00	7.00E+00	8.78E+00	66.10	1.33E-01
4b_TCDD (bird)	Not available	2.90E-08	2.73E-06	2.76E-06	1.40E-05	1.97E-01
4b_TCDD (mammal)	Not available	3.94E-09	1.90E-06	1.91E-06	1.40E-05	1.36E-01
4b_Total DDTs	Not available	4.95E-04	0.00E+00	4.95E-04	0.23	2.18E-03
4b_Total HPAHs	Not available	1.91E-04	0.00E+00	1.91E-04	0.14	1.37E-03
4b_Total LPAHs	Not available	4.78E-05	0.00E+00	4.78E-05	7.70	6.21E-06
4b_Total PCBs	Not available	7.97E-05	6.45E-02	6.46E-02	0.29	2.23E-01
5_Antimony	Not available	1.35E-02	1.45E-02	2.80E-02	Not available	-
5_Arsenic	Not available	3.19E-02	3.53E-01	3.85E-01	2.24	1.72E-01
5_Barium	Not available	1.56E+00	2.99E+00	4.56E+00	208.30	2.19E-02
5_Beryllium	Not available	4.20E-03	7.24E-04	4.93E-03	Not available	-
5_Cadmium	Not available	2.35E-02	7.97E-02	1.03E-01	1.47	7.02E-02
5_Chromium +3	Not available	1.46E-01	5.17E-01	6.63E-01	2.66	2.49E-01
5_Cobalt	Not available	2.81E-02	2.46E-02	5.27E-02	7.61	6.93E-03
5_Copper	Not available	1.30E-01	4.53E-01	5.83E-01	4.05	1.44E-01
5_Lead	Not available	8.45E-01	2.03E-01	1.05E+00	1.63	6.43E-01
5_Manganese	Not available	5.48E+00	2.30E+00	7.77E+00	179.00	4.34E-02
5_Mercury	Not available	1.81E-03	8.49E-02	8.67E-02	0.0180	**4.82E+00**
5_Methylmercury	Not available	1.81E-03	8.49E-02	8.67E-02	0.0180	**4.82E+00**
5_Nickel	Not available	7.26E-02	1.81E-01	2.54E-01	6.71	3.78E-02
5_Selenium	Not available	1.29E-02	1.90E-01	2.03E-01	0.29	6.99E-01
5_Silver	Not available	2.25E-03	9.05E-03	1.13E-02	2.02	5.59E-03
5_Vanadium	Not available	1.81E-01	6.23E-02	2.43E-01	0.34	7.07E-01
5_Zinc	Not available	1.81E+00	6.91E+00	8.72E+00	66.10	1.32E-01
5_TCDD (bird)	Not available	8.04E-08	3.34E-06	3.42E-06	1.40E-05	2.44E-01
5_TCDD (mammal)	Not available	1.08E-08	1.98E-06	1.99E-06	1.40E-05	1.42E-01
5_Total DDTs	Not available	7.45E-06	0.00E+00	7.45E-06	0.23	3.28E-05

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Osprey

BW	1.486	kg
FIR-dry	0.108	kg/d-dw
FIR-wet	0.386	kg/d-ww
WIR	0.077	L/d
SIR-dry	0.0022	kg/d-dw
SIR-wet	0.0077	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	100%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_Total HPAHs	Not available	1.36E-04	0.00E+00	1.36E-04	0.14	9.73E-04
5_Total LPAHs	Not available	5.65E-05	0.00E+00	5.65E-05	7.70	7.34E-06
5_Total PCBs	Not available	1.16E-05	6.00E-02	6.00E-02	0.29	2.07E-01
6_Antimony	Not available	1.38E-02	1.56E-02	2.94E-02	Not available	-
6_Arsenic	Not available	2.25E-02	3.24E-01	3.46E-01	2.24	1.55E-01
6_Barium	Not available	1.49E+00	2.51E+00	4.00E+00	208.30	1.92E-02
6_Beryllium	Not available	3.91E-03	7.61E-04	4.67E-03	Not available	-
6_Cadmium	Not available	1.80E-02	7.97E-02	9.76E-02	1.47	6.64E-02
6_Chromium +3	Not available	1.14E-01	4.80E-01	5.95E-01	2.66	2.24E-01
6_Cobalt	Not available	2.81E-02	2.10E-02	4.91E-02	7.61	6.45E-03
6_Copper	Not available	1.30E-01	5.43E-01	6.72E-01	4.05	1.66E-01
6_Lead	Not available	6.69E-01	2.43E-01	9.12E-01	1.63	5.59E-01
6_Manganese	Not available	3.32E+00	2.20E+00	5.52E+00	179.00	3.08E-02
6_Mercury	Not available	2.61E-03	8.59E-02	8.85E-02	0.0180	**4.92E+00**
6_Methylmercury	Not available	2.61E-03	8.59E-02	8.85E-02	0.0180	**4.92E+00**
6_Nickel	Not available	5.68E-02	2.04E-01	2.60E-01	6.71	3.88E-02
6_Selenium	Not available	1.25E-02	1.74E-01	1.86E-01	0.29	6.42E-01
6_Silver	Not available	3.04E-03	9.05E-03	1.21E-02	2.02	5.99E-03
6_Vanadium	Not available	1.35E-01	8.69E-02	2.22E-01	0.34	6.46E-01
6_Zinc	Not available	1.75E+00	8.17E+00	9.92E+00	66.10	1.50E-01
6_TCDD (bird)	Not available	4.41E-08	4.67E-06	4.72E-06	1.40E-05	3.37E-01
6_TCDD (mammal)	Not available	8.19E-09	2.97E-06	2.98E-06	1.40E-05	2.13E-01
6_Total DDTs	Not available	4.53E-05	0.00E+00	4.53E-05	0.23	2.00E-04
6_Total HPAHs	Not available	1.05E-04	0.00E+00	1.05E-04	0.14	7.51E-04
6_Total LPAHs	Not available	6.37E-05	0.00E+00	6.37E-05	7.70	8.28E-06
6_Total PCBs	Not available	1.38E-05	4.11E-02	4.11E-02	0.29	1.42E-01

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Bald Eagle

BW	4.684	kg
FIR-dry	0.230	kg/d-dw
FIR-wet	0.827	kg/d-ww
WIR	0.166	L/d
SIR-dry	0.0046	kg/d-dw
SIR-wet	0.0165	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	27%	Birds	50%
Amphibians	0%	Mammals	23%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	1.71E-01	2.79E-02	1.99E-01	Not available	-
1_Arsenic	3.05E-05	7.32E-02	1.59E-02	8.92E-02	2.24	3.98E-02
1_Barium	Not available	2.40E+00	5.54E-01	2.95E+00	208.30	1.42E-02
1_Beryllium	Not available	1.77E-03	1.40E-04	1.91E-03	Not available	-
1_Cadmium	8.51E-06	1.77E-02	1.59E-02	3.37E-02	1.47	2.29E-02
1_Chromium +3	2.94E-05	1.70E-01	1.46E-01	3.16E-01	2.66	1.19E-01
1_Cobalt	Not available	8.43E-02	1.73E-02	1.02E-01	7.61	1.33E-02
1_Copper	1.62E-04	3.25E+00	6.00E-01	3.85E+00	4.05	9.50E-01
1_Lead	6.95E-05	2.72E+00	3.33E-01	3.05E+00	1.63	**1.87E+00**
1_Manganese	Not available	4.84E+00	1.32E+00	6.16E+00	179.00	3.44E-02
1_Mercury	7.09E-08	6.69E-04	1.06E-02	1.13E-02	0.018	6.27E-01
1_Methylmercury	Not available	6.69E-04	1.06E-02	1.13E-02	0.018	6.27E-01
1_Nickel	3.37E-05	1.91E-02	4.25E-02	6.16E-02	6.71	9.18E-03
1_Selenium	Not available	1.92E-02	4.66E-02	6.58E-02	0.29	2.27E-01
1_Silver	1.77E-06	1.24E-02	1.73E-03	1.41E-02	2.02	6.99E-03
1_Vanadium	Not available	9.94E-02	1.59E-02	1.15E-01	0.34	3.35E-01
1_Zinc	1.60E-03	2.62E+01	6.00E+00	3.22E+01	66.10	4.87E-01
1_TCDD (bird)	Not available	1.01E-09	6.05E-07	6.06E-07	1.40E-05	4.33E-02
1_TCDD (mammal)	Not available	3.46E-10	3.98E-07	3.98E-07	1.40E-05	2.85E-02
1_Total DDTs	Not available	3.48E-06	0.00E+00	3.48E-06	0.23	1.53E-05
1_Total HPAHs	Not available	6.12E-04	0.00E+00	6.12E-04	0.14	4.37E-03
1_Total LPAHs	Not available	8.81E-05	0.00E+00	8.81E-05	7.70	1.14E-05
1_Total PCBs	Not available	3.94E-05	6.13E-03	6.17E-03	0.29	2.13E-02
2_Antimony	Not available	5.30E-02	2.86E-03	5.59E-02	Not available	-
2_Arsenic	Not available	5.23E-02	4.82E-02	1.01E-01	2.24	4.49E-02
2_Barium	Not available	2.10E+00	3.40E-01	2.44E+00	208.30	1.17E-02
2_Beryllium	Not available	2.36E-03	1.46E-04	2.51E-03	Not available	-
2_Cadmium	Not available	6.79E-03	2.39E-02	3.07E-02	1.47	2.09E-02
2_Chromium +3	Not available	1.48E-01	7.09E-02	2.19E-01	2.66	8.21E-02
2_Cobalt	Not available	6.58E-02	3.05E-03	6.89E-02	7.61	9.05E-03
2_Copper	Not available	2.98E+00	9.01E-02	3.07E+00	4.05	7.58E-01
2_Lead	Not available	1.56E+00	2.15E-01	1.78E+00	1.63	**1.09E+00**
2_Manganese	Not available	4.78E+00	3.56E-01	5.14E+00	179.00	2.87E-02
2_Mercury	Not available	1.08E-03	1.12E-02	1.23E-02	0.0180	6.81E-01
2_Methylmercury	Not available	1.08E-03	1.12E-02	1.23E-02	0.0180	6.81E-01
2_Nickel	Not available	2.26E-02	3.44E-02	5.70E-02	6.71	8.50E-03
2_Selenium	Not available	2.28E-02	4.69E-02	6.97E-02	0.29	2.40E-01
2_Silver	Not available	7.58E-03	1.79E-03	9.37E-03	2.02	4.64E-03
2_Vanadium	Not available	7.91E-02	8.77E-03	8.79E-02	0.34	2.55E-01
2_Zinc	Not available	2.45E+01	1.37E+00	2.59E+01	66.10	3.91E-01
2_TCDD (bird)	Not available	1.57E-08	6.32E-07	6.48E-07	1.40E-05	4.63E-02
2_TCDD (mammal)	Not available	2.24E-09	3.46E-07	3.49E-07	1.40E-05	2.49E-02
2_Total DDTs	Not available	3.19E-06	0.00E+00	3.19E-06	0.23	1.40E-05
2_Total HPAHs	Not available	6.10E-05	0.00E+00	6.10E-05	0.14	4.36E-04
2_Total LPAHs	Not available	2.66E-05	0.00E+00	2.66E-05	7.70	3.45E-06

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Bald Eagle

BW	4.684	kg
FIR-dry	0.230	kg/d-dw
FIR-wet	0.827	kg/d-ww
WIR	0.166	L/d
SIR-dry	0.0046	kg/d-dw
SIR-wet	0.0165	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	27%	Birds	50%
Amphibians	0%	Mammals	23%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total PCBs	Not available	5.41E-05	3.09E-02	3.10E-02	0.29	1.07E-01
3_Antimony	Not available	4.18E-02	2.66E-03	4.45E-02	Not available	-
3_Arsenic	Not available	2.58E-02	4.33E-02	6.91E-02	2.24	3.08E-02
3_Barium	Not available	1.58E+00	3.90E-01	1.97E+00	208.30	9.48E-03
3_Beryllium	Not available	2.95E-03	1.33E-04	3.08E-03	Not available	-
3_Cadmium	Not available	7.18E-03	2.26E-02	2.98E-02	1.47	2.02E-02
3_Chromium +3	Not available	1.07E-01	5.31E-02	1.60E-01	2.66	6.03E-02
3_Cobalt	Not available	4.09E-02	3.32E-03	4.42E-02	7.61	5.81E-03
3_Copper	Not available	2.20E+00	1.31E-01	2.34E+00	4.05	5.77E-01
3_Lead	Not available	1.13E+00	2.01E-01	1.33E+00	1.63	8.17E-01
3_Manganese	Not available	4.61E+00	4.09E-01	5.02E+00	179.00	2.81E-02
3_Mercury	Not available	1.18E-03	1.69E-02	1.81E-02	0.0180	**1.01E+00**
3_Methylmercury	Not available	1.18E-03	1.69E-02	1.81E-02	0.0180	**1.01E+00**
3_Nickel	Not available	5.19E-02	2.92E-02	8.12E-02	6.71	1.21E-02
3_Selenium	Not available	2.30E-02	5.22E-02	7.52E-02	0.29	2.59E-01
3_Silver	Not available	4.92E-03	1.66E-03	6.58E-03	2.02	3.26E-03
3_Vanadium	Not available	1.08E-01	1.09E-02	1.19E-01	0.34	3.46E-01
3_Zinc	Not available	2.44E+01	1.24E+00	2.56E+01	66.10	3.88E-01
3_TCDD (bird)	Not available	2.49E-08	3.78E-07	4.02E-07	1.40E-05	2.87E-02
3_TCDD (mammal)	Not available	3.39E-09	2.02E-07	2.05E-07	1.40E-05	1.47E-02
3_Total DDTs	Not available	8.36E-06	0.00E+00	8.36E-06	0.23	3.68E-05
3_Total HPAHs	Not available	7.97E-05	0.00E+00	7.97E-05	0.14	5.69E-04
3_Total LPAHs	Not available	1.21E-04	0.00E+00	1.21E-04	7.70	1.57E-05
3_Total PCBs	Not available	8.85E-05	6.27E-03	6.35E-03	0.29	2.19E-02
4a_Antimony	Not available	7.03E-03	2.66E-03	9.69E-03	Not available	-
4a_Arsenic	Not available	1.99E-02	6.07E-02	8.06E-02	2.24	3.60E-02
4a_Barium	Not available	1.22E+00	4.17E-01	1.64E+00	208.30	7.86E-03
4a_Beryllium	Not available	2.95E-03	1.33E-04	3.08E-03	Not available	-
4a_Cadmium	Not available	1.40E-02	1.73E-02	3.12E-02	1.47	2.13E-02
4a_Chromium +3	Not available	7.56E-02	1.03E-01	1.79E-01	2.66	6.73E-02
4a_Cobalt	Not available	1.97E-02	5.45E-03	2.51E-02	7.61	3.30E-03
4a_Copper	Not available	1.50E-01	9.23E-02	2.42E-01	4.05	5.97E-02
4a_Lead	Not available	8.27E-01	1.11E-01	9.39E-01	1.63	5.76E-01
4a_Manganese	Not available	1.13E+00	4.72E-01	1.60E+00	179.00	8.96E-03
4a_Mercury	Not available	2.36E-03	1.59E-02	1.82E-02	0.0180	**1.01E+00**
4a_Methylmercury	Not available	2.36E-03	1.59E-02	1.82E-02	0.0180	**1.01E+00**
4a_Nickel	Not available	3.74E-02	4.37E-02	8.11E-02	6.71	1.21E-02
4a_Selenium	Not available	7.67E-03	4.30E-02	5.07E-02	0.29	1.75E-01
4a_Silver	Not available	2.85E-03	1.66E-03	4.51E-03	2.02	2.23E-03
4a_Vanadium	Not available	1.01E-01	1.46E-02	1.16E-01	0.34	3.37E-01
4a_Zinc	Not available	1.68E+00	1.28E+00	2.97E+00	66.10	4.49E-02
4a_TCDD (bird)	Not available	2.95E-08	5.01E-07	5.31E-07	1.40E-05	3.79E-02
4a_TCDD (mammal)	Not available	4.50E-09	3.49E-07	3.53E-07	1.40E-05	2.52E-02
4a_Total DDTs	Not available	1.65E-05	0.00E+00	1.65E-05	0.23	7.28E-05
4a_Total HPAHs	Not available	7.03E-05	0.00E+00	7.03E-05	0.14	5.02E-04

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Bald Eagle

BW	4.684	kg
FIR-dry	0.230	kg/d-dw
FIR-wet	0.827	kg/d-ww
WIR	0.166	L/d
SIR-dry	0.0046	kg/d-dw
SIR-wet	0.0165	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	27%	Birds	50%
Amphibians	0%	Mammals	23%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total LPAHs	Not available	4.67E-05	0.00E+00	4.67E-05	7.70	6.07E-06
4a_Total PCBs	Not available	2.40E-04	1.18E-02	1.21E-02	0.29	4.16E-02
4b_Antimony	Not available	4.13E-03	2.66E-03	6.79E-03	Not available	-
4b_Arsenic	Not available	1.60E-02	6.07E-02	7.67E-02	2.24	3.43E-02
4b_Barium	Not available	1.16E+00	4.17E-01	1.58E+00	208.30	7.58E-03
4b_Beryllium	Not available	2.66E-03	1.33E-04	2.79E-03	Not available	-
4b_Cadmium	Not available	1.25E-02	1.73E-02	2.98E-02	1.47	2.02E-02
4b_Chromium +3	Not available	9.94E-02	1.03E-01	2.03E-01	2.66	7.62E-02
4b_Cobalt	Not available	1.81E-02	5.45E-03	2.35E-02	7.61	3.09E-03
4b_Copper	Not available	9.59E-02	9.23E-02	1.88E-01	4.05	4.65E-02
4b_Lead	Not available	8.27E-01	1.11E-01	9.39E-01	1.63	5.76E-01
4b_Manganese	Not available	3.15E+00	4.72E-01	3.62E+00	179.00	2.02E-02
4b_Mercury	Not available	1.77E-03	1.59E-02	1.76E-02	0.0180	9.80E-01
4b_Methylmercury	Not available	1.77E-03	1.59E-02	1.76E-02	0.0180	9.80E-01
4b_Nickel	Not available	4.72E-02	4.37E-02	9.09E-02	6.71	1.36E-02
4b_Selenium	Not available	7.77E-03	4.30E-02	5.08E-02	0.29	1.75E-01
4b_Silver	Not available	1.67E-03	1.66E-03	3.33E-03	2.02	1.65E-03
4b_Vanadium	Not available	1.10E-01	1.46E-02	1.25E-01	0.34	3.63E-01
4b_Zinc	Not available	1.21E+00	1.28E+00	2.49E+00	66.10	3.77E-02
4b_TCDD (bird)	Not available	1.97E-08	5.01E-07	5.21E-07	1.40E-05	3.72E-02
4b_TCDD (mammal)	Not available	2.68E-09	3.49E-07	3.51E-07	1.40E-05	2.51E-02
4b_Total DDTs	Not available	3.36E-04	0.00E+00	3.36E-04	0.23	1.48E-03
4b_Total HPAHs	Not available	1.30E-04	0.00E+00	1.30E-04	0.14	9.28E-04
4b_Total LPAHs	Not available	3.25E-05	0.00E+00	3.25E-05	7.70	4.22E-06
4b_Total PCBs	Not available	5.41E-05	1.18E-02	1.19E-02	0.29	4.10E-02
5_Antimony	Not available	9.15E-03	2.66E-03	1.18E-02	Not available	-
5_Arsenic	Not available	2.16E-02	6.48E-02	8.65E-02	2.24	3.86E-02
5_Barium	Not available	1.06E+00	5.49E-01	1.61E+00	208.30	7.73E-03
5_Beryllium	Not available	2.85E-03	1.33E-04	2.99E-03	Not available	-
5_Cadmium	Not available	1.59E-02	1.46E-02	3.05E-02	1.47	2.08E-02
5_Chromium +3	Not available	9.94E-02	9.48E-02	1.94E-01	2.66	7.30E-02
5_Cobalt	Not available	1.91E-02	4.52E-03	2.36E-02	7.61	3.10E-03
5_Copper	Not available	8.83E-02	8.30E-02	1.71E-01	4.05	4.23E-02
5_Lead	Not available	5.74E-01	3.72E-02	6.11E-01	1.63	3.75E-01
5_Manganese	Not available	3.72E+00	4.21E-01	4.14E+00	179.00	2.31E-02
5_Mercury	Not available	1.23E-03	1.56E-02	1.68E-02	0.0180	9.33E-01
5_Methylmercury	Not available	1.23E-03	1.56E-02	1.68E-02	0.0180	9.33E-01
5_Nickel	Not available	4.93E-02	3.32E-02	8.25E-02	6.71	1.23E-02
5_Selenium	Not available	8.76E-03	3.48E-02	4.36E-02	0.29	1.50E-01
5_Silver	Not available	1.53E-03	1.66E-03	3.19E-03	2.02	1.58E-03
5_Vanadium	Not available	1.23E-01	1.14E-02	1.34E-01	0.34	3.91E-01
5_Zinc	Not available	1.23E+00	1.27E+00	2.50E+00	66.10	3.78E-02
5_TCDD (bird)	Not available	5.46E-08	6.13E-07	6.68E-07	1.40E-05	4.77E-02
5_TCDD (mammal)	Not available	7.32E-09	3.63E-07	3.70E-07	1.40E-05	2.64E-02
5_Total DDTs	Not available	5.06E-06	0.00E+00	5.06E-06	0.23	2.23E-05

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Bald Eagle

BW	4.684	kg
FIR-dry	0.230	kg/d-dw
FIR-wet	0.827	kg/d-ww
WIR	0.166	L/d
SIR-dry	0.0046	kg/d-dw
SIR-wet	0.0165	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	27%	Birds	50%
Amphibians	0%	Mammals	23%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_Total HPAHs	Not available	9.25E-05	0.00E+00	9.25E-05	0.14	6.61E-04
5_Total LPAHs	Not available	3.84E-05	0.00E+00	3.84E-05	7.70	4.98E-06
5_Total PCBs	Not available	7.87E-06	1.10E-02	1.10E-02	0.29	3.80E-02
6_Antimony	Not available	9.40E-03	2.86E-03	1.23E-02	Not available	-
6_Arsenic	Not available	1.53E-02	5.94E-02	7.46E-02	2.24	3.33E-02
6_Barium	Not available	1.01E+00	4.60E-01	1.47E+00	208.30	7.07E-03
6_Beryllium	Not available	2.66E-03	1.40E-04	2.80E-03	Not available	-
6_Cadmium	Not available	1.22E-02	1.46E-02	2.68E-02	1.47	1.82E-02
6_Chromium +3	Not available	7.77E-02	8.81E-02	1.66E-01	2.66	6.23E-02
6_Cobalt	Not available	1.91E-02	3.85E-03	2.29E-02	7.61	3.01E-03
6_Copper	Not available	8.81E-02	9.95E-02	1.88E-01	4.05	4.63E-02
6_Lead	Not available	4.55E-01	4.45E-02	4.99E-01	1.63	3.06E-01
6_Manganese	Not available	2.25E+00	4.04E-01	2.66E+00	179.00	1.48E-02
6_Mercury	Not available	1.77E-03	1.58E-02	1.75E-02	0.0180	9.74E-01
6_Methylmercury	Not available	1.77E-03	1.58E-02	1.75E-02	0.0180	9.74E-01
6_Nickel	Not available	3.86E-02	3.73E-02	7.59E-02	6.71	1.13E-02
6_Selenium	Not available	8.46E-03	3.19E-02	4.03E-02	0.29	1.39E-01
6_Silver	Not available	2.07E-03	1.66E-03	3.73E-03	2.02	1.84E-03
6_Vanadium	Not available	9.20E-02	1.59E-02	1.08E-01	0.34	3.14E-01
6_Zinc	Not available	1.19E+00	1.50E+00	2.69E+00	66.10	4.07E-02
6_TCDD (bird)	Not available	2.99E-08	8.57E-07	8.87E-07	1.40E-05	6.33E-02
6_TCDD (mammal)	Not available	5.56E-09	5.44E-07	5.50E-07	1.40E-05	3.93E-02
6_Total DDTs	Not available	3.08E-05	0.00E+00	3.08E-05	0.23	1.36E-04
6_Total HPAHs	Not available	7.14E-05	0.00E+00	7.14E-05	0.14	5.10E-04
6_Total LPAHs	Not available	4.33E-05	0.00E+00	4.33E-05	7.70	5.62E-06
6_Total PCBs	Not available	9.35E-06	7.54E-03	7.55E-03	0.29	2.60E-02

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Belted Kingfisher

BW	0.148	kg
FIR-dry	0.023	kg/d-dw
FIR-wet	0.084	kg/d-ww
WIR	0.016	L/d
SIR-dry	0.0005	kg/d-dw
SIR-wet	0.0017	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	59%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	39%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	5.48E-01	1.14E+01	1.20E+01	Not available	-
1_Arsenic	9.53E-05	2.34E-01	3.43E+00	3.66E+00	2.24	**1.64E+00**
1_Barium	Not available	7.69E+00	6.34E+02	6.42E+02	208.30	**3.08E+00**
1_Beryllium	Not available	5.67E-03	2.42E-02	2.99E-02	Not available	-
1_Cadmium	2.66E-05	5.67E-02	9.42E+00	9.47E+00	1.47	**6.44E+00**
1_Chromium +3	9.20E-05	5.45E-01	6.25E+00	6.80E+00	2.66	**2.56E+00**
1_Cobalt	Not available	2.70E-01	5.66E+00	5.93E+00	7.61	7.79E-01
1_Copper	5.08E-04	1.04E+01	1.12E+03	1.13E+03	4.05	**2.80E+02**
1_Lead	2.17E-04	8.70E+00	1.11E+02	1.19E+02	1.63	**7.32E+01**
1_Manganese	Not available	1.55E+01	5.27E+02	5.43E+02	179.00	**3.03E+00**
1_Mercury	2.22E-07	2.14E-03	2.00E-01	2.03E-01	0.018	**1.13E+01**
1_Methylmercury	Not available	2.14E-03	2.00E-01	2.03E-01	0.018	**1.13E+01**
1_Nickel	1.05E-04	6.11E-02	3.21E+00	3.27E+00	6.71	4.87E-01
1_Selenium	Not available	6.15E-02	8.55E+00	8.62E+00	0.29	**2.97E+01**
1_Silver	5.54E-06	3.97E-02	1.59E-01	1.98E-01	2.02	9.82E-02
1_Vanadium	Not available	3.18E-01	2.27E+00	2.58E+00	0.34	**7.51E+00**
1_Zinc	4.99E-03	8.38E+01	1.30E+04	1.31E+04	66.10	**1.98E+02**
1_TCDD (bird)	Not available	3.24E-09	4.46E-06	4.46E-06	1.40E-05	3.19E-01
1_TCDD (mammal)	Not available	1.11E-09	2.86E-06	2.87E-06	1.40E-05	2.05E-01
1_Total DDTs	Not available	1.12E-05	9.10E-03	9.11E-03	0.23	4.02E-02
1_Total HPAHs	Not available	1.96E-03	5.48E-01	5.50E-01	0.14	**3.93E+00**
1_Total LPAHs	Not available	2.82E-04	7.23E-02	7.26E-02	7.70	9.43E-03
1_Total PCBs	Not available	1.26E-04	1.11E-01	1.11E-01	0.29	3.83E-01
2_Antimony	Not available	1.70E-01	3.50E+00	3.67E+00	Not available	-
2_Arsenic	Not available	1.68E-01	2.71E+00	2.88E+00	2.24	**1.28E+00**
2_Barium	Not available	6.71E+00	5.53E+02	5.60E+02	208.30	**2.69E+00**
2_Beryllium	Not available	7.56E-03	3.20E-02	3.96E-02	Not available	-
2_Cadmium	Not available	2.17E-02	3.73E+00	3.76E+00	1.47	**2.55E+00**
2_Chromium +3	Not available	4.73E-01	5.03E+00	5.51E+00	2.66	**2.07E+00**
2_Cobalt	Not available	2.11E-01	4.34E+00	4.55E+00	7.61	5.99E-01
2_Copper	Not available	9.55E+00	1.03E+03	1.04E+03	4.05	**2.56E+02**
2_Lead	Not available	5.01E+00	6.39E+01	6.89E+01	1.63	**4.23E+01**
2_Manganese	Not available	1.53E+01	5.14E+02	5.30E+02	179.00	**2.96E+00**
2_Mercury	Not available	3.47E-03	2.82E-01	2.86E-01	0.0180	**1.59E+01**
2_Methylmercury	Not available	3.47E-03	2.82E-01	2.86E-01	0.0180	**1.59E+01**
2_Nickel	Not available	7.25E-02	3.69E+00	3.76E+00	6.71	5.61E-01
2_Selenium	Not available	7.31E-02	1.01E+01	1.02E+01	0.29	**3.51E+01**
2_Silver	Not available	2.43E-02	1.02E-01	1.26E-01	2.02	6.26E-02
2_Vanadium	Not available	2.53E-01	1.78E+00	2.03E+00	0.34	**5.90E+00**
2_Zinc	Not available	7.85E+01	1.21E+04	1.22E+04	66.10	**1.85E+02**
2_TCDD (bird)	Not available	5.02E-08	7.94E-06	7.99E-06	1.40E-05	5.71E-01
2_TCDD (mammal)	Not available	7.18E-09	2.93E-06	2.93E-06	1.40E-05	2.10E-01
2_Total DDTs	Not available	1.02E-05	8.33E-03	8.34E-03	0.23	3.68E-02
2_Total HPAHs	Not available	1.95E-04	5.47E-02	5.49E-02	0.14	3.92E-01
2_Total LPAHs	Not available	8.51E-05	2.18E-02	2.19E-02	7.70	2.85E-03

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Belted Kingfisher

BW	0.148	kg
FIR-dry	0.023	kg/d-dw
FIR-wet	0.084	kg/d-ww
WIR	0.016	L/d
SIR-dry	0.0005	kg/d-dw
SIR-wet	0.0017	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	59%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	39%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total PCBs	Not available	1.73E-04	3.10E-01	3.10E-01	0.29	**1.07E+00**
3_Antimony	Not available	1.34E-01	2.76E+00	2.90E+00	Not available	-
3_Arsenic	Not available	8.26E-02	1.47E+00	1.55E+00	2.24	6.94E-01
3_Barium	Not available	5.07E+00	4.19E+02	4.24E+02	208.30	**2.04E+00**
3_Beryllium	Not available	9.46E-03	3.97E-02	4.92E-02	Not available	-
3_Cadmium	Not available	2.30E-02	3.93E+00	3.95E+00	1.47	**2.69E+00**
3_Chromium +3	Not available	3.44E-01	3.67E+00	4.01E+00	2.66	**1.51E+00**
3_Cobalt	Not available	1.31E-01	2.71E+00	2.84E+00	7.61	3.73E-01
3_Copper	Not available	7.06E+00	7.61E+02	7.68E+02	4.05	**1.90E+02**
3_Lead	Not available	3.62E+00	4.65E+01	5.01E+01	1.63	**3.08E+01**
3_Manganese	Not available	1.48E+01	4.97E+02	5.12E+02	179.00	**2.86E+00**
3_Mercury	Not available	3.78E-03	3.41E-01	3.45E-01	0.0180	**1.92E+01**
3_Methylmercury	Not available	3.78E-03	3.41E-01	3.45E-01	0.0180	**1.92E+01**
3_Nickel	Not available	1.66E-01	8.12E+00	8.29E+00	6.71	**1.23E+00**
3_Selenium	Not available	7.38E-02	1.02E+01	1.03E+01	0.29	**3.56E+01**
3_Silver	Not available	1.58E-02	6.98E-02	8.55E-02	2.02	4.23E-02
3_Vanadium	Not available	3.47E-01	2.42E+00	2.77E+00	0.34	**8.05E+00**
3_Zinc	Not available	7.82E+01	1.21E+04	1.21E+04	66.10	**1.84E+02**
3_TCDD (bird)	Not available	7.97E-08	8.22E-06	8.30E-06	1.40E-05	5.93E-01
3_TCDD (mammal)	Not available	1.09E-08	2.17E-06	2.19E-06	1.40E-05	1.56E-01
3_Total DDTs	Not available	2.68E-05	2.19E-02	2.19E-02	0.23	9.64E-02
3_Total HPAHs	Not available	2.55E-04	7.14E-02	7.17E-02	0.14	5.12E-01
3_Total LPAHs	Not available	3.88E-04	9.94E-02	9.98E-02	7.70	1.30E-02
3_Total PCBs	Not available	2.84E-04	1.97E-01	1.97E-01	0.29	6.79E-01
4a_Antimony	Not available	2.25E-02	4.81E-01	5.03E-01	Not available	-
4a_Arsenic	Not available	6.37E-02	1.33E+00	1.39E+00	2.24	6.20E-01
4a_Barium	Not available	3.91E+00	3.23E+02	3.27E+02	208.30	**1.57E+00**
4a_Beryllium	Not available	9.46E-03	3.97E-02	4.92E-02	Not available	-
4a_Cadmium	Not available	4.48E-02	7.46E+00	7.51E+00	1.47	**5.11E+00**
4a_Chromium +3	Not available	2.42E-01	3.05E+00	3.29E+00	2.66	**1.24E+00**
4a_Cobalt	Not available	6.30E-02	1.33E+00	1.39E+00	7.61	1.83E-01
4a_Copper	Not available	4.79E-01	5.22E+01	5.27E+01	4.05	**1.30E+01**
4a_Lead	Not available	2.65E+00	3.38E+01	3.64E+01	1.63	**2.23E+01**
4a_Manganese	Not available	3.62E+00	1.24E+02	1.28E+02	179.00	7.15E-01
4a_Mercury	Not available	7.56E-03	5.56E-01	5.64E-01	0.0180	**3.13E+01**
4a_Methylmercury	Not available	7.56E-03	5.56E-01	5.64E-01	0.0180	**3.13E+01**
4a_Nickel	Not available	1.20E-01	6.00E+00	6.12E+00	6.71	9.12E-01
4a_Selenium	Not available	2.46E-02	3.59E+00	3.62E+00	0.29	**1.25E+01**
4a_Silver	Not available	9.14E-03	4.53E-02	5.45E-02	2.02	2.70E-02
4a_Vanadium	Not available	3.25E-01	2.30E+00	2.62E+00	0.34	**7.63E+00**
4a_Zinc	Not available	5.39E+00	8.41E+02	8.46E+02	66.10	**1.28E+01**
4a_TCDD (bird)	Not available	9.46E-08	1.01E-05	1.02E-05	1.40E-05	7.30E-01
4a_TCDD (mammal)	Not available	1.44E-08	3.45E-06	3.46E-06	1.40E-05	2.47E-01
4a_Total DDTs	Not available	5.30E-05	4.32E-02	4.33E-02	0.23	1.91E-01
4a_Total HPAHs	Not available	2.25E-04	6.30E-02	6.33E-02	0.14	4.52E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Belted Kingfisher

BW	0.148	kg				
FIR-dry	0.023	kg/d-dw	Diet (%)			
FIR-wet	0.084	kg/d-ww	Fish	59%	Birds	0%
WIR	0.016	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0005	kg/d-dw	Mussels	2%	Reptiles	0%
SIR-wet	0.0017	kg/d-ww	Aq. Inverts	39%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total LPAHs	Not available	1.50E-04	3.84E-02	3.85E-02	7.70	5.01E-03
4a_Total PCBs	Not available	7.69E-04	4.97E-01	4.98E-01	0.29	**1.72E+00**
4b_Antimony	Not available	1.32E-02	2.90E-01	3.03E-01	Not available	-
4b_Arsenic	Not available	5.14E-02	1.15E+00	1.20E+00	2.24	5.37E-01
4b_Barium	Not available	3.72E+00	3.08E+02	3.12E+02	208.30	**1.50E+00**
4b_Beryllium	Not available	8.51E-03	3.58E-02	4.43E-02	Not available	-
4b_Cadmium	Not available	4.00E-02	6.69E+00	6.73E+00	1.47	**4.58E+00**
4b_Chromium +3	Not available	3.18E-01	3.78E+00	4.10E+00	2.66	**1.54E+00**
4b_Cobalt	Not available	5.80E-02	1.23E+00	1.28E+00	7.61	1.69E-01
4b_Copper	Not available	3.07E-01	3.37E+01	3.40E+01	4.05	**8.40E+00**
4b_Lead	Not available	2.65E+00	3.38E+01	3.64E+01	1.63	**2.23E+01**
4b_Manganese	Not available	1.01E+01	3.40E+02	3.50E+02	179.00	**1.96E+00**
4b_Mercury	Not available	5.67E-03	4.45E-01	4.51E-01	0.0180	**2.50E+01**
4b_Methylmercury	Not available	5.67E-03	4.45E-01	4.51E-01	0.0180	**2.50E+01**
4b_Nickel	Not available	1.51E-01	7.50E+00	7.65E+00	6.71	**1.14E+00**
4b_Selenium	Not available	2.49E-02	3.63E+00	3.66E+00	0.29	**1.26E+01**
4b_Silver	Not available	5.36E-03	3.14E-02	3.68E-02	2.02	1.82E-02
4b_Vanadium	Not available	3.53E-01	2.49E+00	2.84E+00	0.34	**8.27E+00**
4b_Zinc	Not available	3.88E+00	6.07E+02	6.11E+02	66.10	**9.24E+00**
4b_TCDD (bird)	Not available	6.30E-08	7.92E-06	7.98E-06	1.40E-05	5.70E-01
4b_TCDD (mammal)	Not available	8.58E-09	3.04E-06	3.05E-06	1.40E-05	2.18E-01
4b_Total DDTs	Not available	1.08E-03	8.79E-01	8.80E-01	0.23	**3.88E+00**
4b_Total HPAHs	Not available	4.16E-04	1.16E-01	1.17E-01	0.14	8.34E-01
4b_Total LPAHs	Not available	1.04E-04	2.67E-02	2.68E-02	7.70	3.48E-03
4b_Total PCBs	Not available	1.73E-04	1.76E-01	1.76E-01	0.29	6.08E-01
5_Antimony	Not available	2.93E-02	6.19E-01	6.49E-01	Not available	-
5_Arsenic	Not available	6.93E-02	1.43E+00	1.50E+00	2.24	6.71E-01
5_Barium	Not available	3.40E+00	2.83E+02	2.86E+02	208.30	**1.37E+00**
5_Beryllium	Not available	9.14E-03	3.84E-02	4.75E-02	Not available	-
5_Cadmium	Not available	5.11E-02	8.48E+00	8.53E+00	1.47	**5.80E+00**
5_Chromium +3	Not available	3.18E-01	3.72E+00	4.04E+00	2.66	**1.52E+00**
5_Cobalt	Not available	6.11E-02	1.29E+00	1.35E+00	7.61	1.77E-01
5_Copper	Not available	2.83E-01	3.10E+01	3.13E+01	4.05	**7.73E+00**
5_Lead	Not available	1.84E+00	2.31E+01	2.50E+01	1.63	**1.53E+01**
5_Manganese	Not available	1.19E+01	4.01E+02	4.13E+02	179.00	**2.31E+00**
5_Mercury	Not available	3.94E-03	3.41E-01	3.45E-01	0.0180	**1.91E+01**
5_Methylmercury	Not available	3.94E-03	3.41E-01	3.45E-01	0.0180	**1.91E+01**
5_Nickel	Not available	1.58E-01	7.74E+00	7.90E+00	6.71	**1.18E+00**
5_Selenium	Not available	2.81E-02	4.00E+00	4.03E+00	0.29	**1.39E+01**
5_Silver	Not available	4.89E-03	2.96E-02	3.45E-02	2.02	1.71E-02
5_Vanadium	Not available	3.94E-01	2.75E+00	3.14E+00	0.34	**9.13E+00**
5_Zinc	Not available	3.94E+00	6.17E+02	6.21E+02	66.10	**9.39E+00**
5_TCDD (bird)	Not available	1.75E-07	1.65E-05	1.67E-05	1.40E-05	**1.19E+00**
5_TCDD (mammal)	Not available	2.35E-08	4.18E-06	4.20E-06	1.40E-05	3.00E-01
5_Total DDTs	Not available	1.62E-05	1.32E-02	1.32E-02	0.23	5.83E-02

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Belted Kingfisher

BW	0.148	kg
FIR-dry	0.023	kg/d-dw
FIR-wet	0.084	kg/d-ww
WIR	0.016	L/d
SIR-dry	0.0005	kg/d-dw
SIR-wet	0.0017	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	59%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	39%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_Total HPAHs	Not available	2.96E-04	8.29E-02	8.32E-02	0.14	5.94E-01
5_Total LPAHs	Not available	1.23E-04	3.15E-02	3.16E-02	7.70	4.11E-03
5_Total PCBs	Not available	2.52E-05	9.06E-02	9.07E-02	0.29	3.13E-01
6_Antimony	Not available	3.01E-02	6.37E-01	6.67E-01	Not available	-
6_Arsenic	Not available	4.89E-02	1.11E+00	1.16E+00	2.24	5.16E-01
6_Barium	Not available	3.25E+00	2.69E+02	2.73E+02	208.30	**1.31E+00**
6_Beryllium	Not available	8.51E-03	3.59E-02	4.44E-02	Not available	-
6_Cadmium	Not available	3.91E-02	6.51E+00	6.55E+00	1.47	**4.46E+00**
6_Chromium +3	Not available	2.49E-01	3.01E+00	3.25E+00	2.66	**1.22E+00**
6_Cobalt	Not available	6.11E-02	1.28E+00	1.34E+00	7.61	1.76E-01
6_Copper	Not available	2.82E-01	3.11E+01	3.13E+01	4.05	**7.74E+00**
6_Lead	Not available	1.46E+00	1.84E+01	1.99E+01	1.63	**1.22E+01**
6_Manganese	Not available	7.22E+00	2.44E+02	2.51E+02	179.00	**1.40E+00**
6_Mercury	Not available	5.67E-03	4.44E-01	4.50E-01	0.0180	**2.50E+01**
6_Methylmercury	Not available	5.67E-03	4.44E-01	4.50E-01	0.0180	**2.50E+01**
6_Nickel	Not available	1.24E-01	6.14E+00	6.26E+00	6.71	9.33E-01
6_Selenium	Not available	2.71E-02	3.85E+00	3.88E+00	0.29	**1.34E+01**
6_Silver	Not available	6.62E-03	3.60E-02	4.27E-02	2.02	2.11E-02
6_Vanadium	Not available	2.95E-01	2.11E+00	2.40E+00	0.34	**6.98E+00**
6_Zinc	Not available	3.81E+00	5.99E+02	6.03E+02	66.10	**9.12E+00**
6_TCDD (bird)	Not available	9.59E-08	1.27E-05	1.28E-05	1.40E-05	9.14E-01
6_TCDD (mammal)	Not available	1.78E-08	5.06E-06	5.07E-06	1.40E-05	3.62E-01
6_Total DDTs	Not available	9.87E-05	8.05E-02	8.06E-02	0.23	3.55E-01
6_Total HPAHs	Not available	2.29E-04	6.40E-02	6.42E-02	0.14	4.59E-01
6_Total LPAHs	Not available	1.39E-04	3.56E-02	3.57E-02	7.70	4.64E-03
6_Total PCBs	Not available	2.99E-05	6.89E-02	6.89E-02	0.29	2.38E-01

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Canada Goose

BW	2.620	kg					
FIR-dry	0.140	kg/d-dw	Diet (%)				
FIR-wet	0.468	kg/d-ww	Fish	0%	Birds	0%	
WIR	0.112	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0115	kg/d-dw	Mussels	0%	Reptiles	0%	
SIR-wet	0.0384	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	0%	
AUF	1.0	Unitless	Aq. Plants	100%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	7.63E-01	4.62E+00	5.38E+00	Not available	-
1_Arsenic	3.69E-05	3.26E-01	2.15E+00	2.48E+00	2.24	**1.11E+00**
1_Barium	Not available	1.07E+01	4.97E+01	6.04E+01	208.30	2.90E-01
1_Beryllium	Not available	7.89E-03	7.55E-02	8.34E-02	Not available	-
1_Cadmium	1.03E-05	7.89E-02	6.00E-01	6.78E-01	1.47	4.62E-01
1_Chromium +3	3.56E-05	7.58E-01	4.60E+00	5.35E+00	2.66	**2.01E+00**
1_Cobalt	Not available	3.76E-01	2.44E+00	2.82E+00	7.61	3.70E-01
1_Copper	1.97E-04	1.45E+01	6.53E+01	7.97E+01	4.05	**1.97E+01**
1_Lead	8.42E-05	1.21E+01	5.56E+01	6.77E+01	1.63	**4.15E+01**
1_Manganese	Not available	2.16E+01	9.35E+01	1.15E+02	179.00	6.43E-01
1_Mercury	8.59E-08	2.98E-03	3.14E-02	3.44E-02	0.018	**1.91E+00**
1_Methylmercury	Not available	2.98E-03	3.14E-02	3.44E-02	0.018	**1.91E+00**
1_Nickel	4.08E-05	8.50E-02	6.41E-01	7.26E-01	6.71	1.08E-01
1_Selenium	Not available	8.55E-02	6.44E-01	7.30E-01	0.29	**2.52E+00**
1_Silver	2.15E-06	5.52E-02	4.35E-01	4.90E-01	2.02	2.43E-01
1_Vanadium	Not available	4.43E-01	2.83E+00	3.27E+00	0.34	**9.52E+00**
1_Zinc	1.93E-03	1.17E+02	4.27E+02	5.44E+02	66.10	**8.22E+00**
1_TCDD (bird)	Not available	4.51E-09	3.22E-09	7.74E-09	1.40E-05	5.53E-04
1_TCDD (mammal)	Not available	1.54E-09	1.10E-09	2.65E-09	1.40E-05	1.89E-04
1_Total DDTs	Not available	1.55E-05	1.11E-05	2.66E-05	0.23	1.17E-04
1_Total HPAHs	Not available	2.73E-03	1.95E-03	4.68E-03	0.14	3.34E-02
1_Total LPAHs	Not available	3.92E-04	2.80E-04	6.73E-04	7.70	8.74E-05
1_Total PCBs	Not available	1.75E-04	4.69E-04	6.44E-04	0.29	2.22E-03
2_Antimony	Not available	2.36E-01	1.61E+00	1.85E+00	Not available	-
2_Arsenic	Not available	2.33E-01	1.59E+00	1.82E+00	2.24	8.14E-01
2_Barium	Not available	9.34E+00	4.40E+01	5.34E+01	208.30	2.56E-01
2_Beryllium	Not available	1.05E-02	9.78E-02	1.08E-01	Not available	-
2_Cadmium	Not available	3.02E-02	2.53E-01	2.83E-01	1.47	1.93E-01
2_Chromium +3	Not available	6.58E-01	4.04E+00	4.70E+00	2.66	**1.77E+00**
2_Cobalt	Not available	2.93E-01	1.95E+00	2.25E+00	7.61	2.95E-01
2_Copper	Not available	1.33E+01	6.04E+01	7.37E+01	4.05	**1.82E+01**
2_Lead	Not available	6.97E+00	3.38E+01	4.08E+01	1.63	**2.50E+01**
2_Manganese	Not available	2.13E+01	9.25E+01	1.14E+02	179.00	6.36E-01
2_Mercury	Not available	4.82E-03	4.85E-02	5.33E-02	0.0180	**2.96E+00**
2_Methylmercury	Not available	4.82E-03	4.85E-02	5.33E-02	0.0180	**2.96E+00**
2_Nickel	Not available	1.01E-01	7.47E-01	8.48E-01	6.71	1.26E-01
2_Selenium	Not available	1.02E-01	7.53E-01	8.55E-01	0.29	**2.95E+00**
2_Silver	Not available	3.38E-02	2.79E-01	3.13E-01	2.02	1.55E-01
2_Vanadium	Not available	3.52E-01	2.31E+00	2.66E+00	0.34	**7.73E+00**
2_Zinc	Not available	1.09E+02	4.02E+02	5.12E+02	66.10	**7.74E+00**
2_TCDD (bird)	Not available	6.99E-08	5.00E-08	1.20E-07	1.40E-05	8.56E-03
2_TCDD (mammal)	Not available	9.98E-09	7.14E-09	1.71E-08	1.40E-05	1.22E-03
2_Total DDTs	Not available	1.42E-05	1.02E-05	2.44E-05	0.23	1.07E-04
2_Total HPAHs	Not available	2.72E-04	1.94E-04	4.66E-04	0.14	3.33E-03
2_Total LPAHs	Not available	1.18E-04	8.46E-05	2.03E-04	7.70	2.64E-05

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Canada Goose

BW	2.620	kg
FIR-dry	0.140	kg/d-dw
FIR-wet	0.468	kg/d-ww
WIR	0.112	L/d
SIR-dry	0.0115	kg/d-dw
SIR-wet	0.0384	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	100%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total PCBs	Not available	2.41E-04	6.45E-04	8.86E-04	0.29	3.05E-03
3_Antimony	Not available	1.86E-01	1.30E+00	1.49E+00	Not available	-
3_Arsenic	Not available	1.15E-01	8.40E-01	9.55E-01	2.24	4.26E-01
3_Barium	Not available	7.06E+00	3.42E+01	4.13E+01	208.30	1.98E-01
3_Beryllium	Not available	1.32E-02	1.20E-01	1.33E-01	Not available	-
3_Cadmium	Not available	3.20E-02	2.66E-01	2.98E-01	1.47	2.03E-01
3_Chromium +3	Not available	4.78E-01	3.03E+00	3.51E+00	2.66	**1.32E+00**
3_Cobalt	Not available	1.82E-01	1.27E+00	1.46E+00	7.61	1.91E-01
3_Copper	Not available	9.82E+00	4.61E+01	5.59E+01	4.05	**1.38E+01**
3_Lead	Not available	5.04E+00	2.53E+01	3.03E+01	1.63	**1.86E+01**
3_Manganese	Not available	2.06E+01	8.96E+01	1.10E+02	179.00	6.15E-01
3_Mercury	Not available	5.26E-03	5.24E-02	5.77E-02	0.0180	**3.20E+00**
3_Methylmercury	Not available	5.26E-03	5.24E-02	5.77E-02	0.0180	**3.20E+00**
3_Nickel	Not available	2.31E-01	1.58E+00	1.81E+00	6.71	2.70E-01
3_Selenium	Not available	1.03E-01	7.59E-01	8.62E-01	0.29	**2.97E+00**
3_Silver	Not available	2.19E-02	1.89E-01	2.11E-01	2.02	1.05E-01
3_Vanadium	Not available	4.82E-01	3.06E+00	3.54E+00	0.34	**1.03E+01**
3_Zinc	Not available	1.09E+02	4.01E+02	5.10E+02	66.10	**7.71E+00**
3_TCDD (bird)	Not available	1.11E-07	7.93E-08	1.90E-07	1.40E-05	1.36E-02
3_TCDD (mammal)	Not available	1.51E-08	1.08E-08	2.59E-08	1.40E-05	1.85E-03
3_Total DDTs	Not available	3.73E-05	2.66E-05	6.39E-05	0.23	2.82E-04
3_Total HPAHs	Not available	3.55E-04	2.54E-04	6.09E-04	0.14	4.35E-03
3_Total LPAHs	Not available	5.39E-04	3.85E-04	9.25E-04	7.70	1.20E-04
3_Total PCBs	Not available	3.95E-04	1.05E-03	1.45E-03	0.29	5.00E-03
4a_Antimony	Not available	3.13E-02	2.61E-01	2.93E-01	Not available	-
4a_Arsenic	Not available	8.86E-02	6.65E-01	7.54E-01	2.24	3.36E-01
4a_Barium	Not available	5.44E+00	2.70E+01	3.25E+01	208.30	1.56E-01
4a_Beryllium	Not available	1.32E-02	1.20E-01	1.33E-01	Not available	-
4a_Cadmium	Not available	6.23E-02	4.84E-01	5.47E-01	1.47	3.72E-01
4a_Chromium +3	Not available	3.37E-01	2.21E+00	2.55E+00	2.66	9.58E-01
4a_Cobalt	Not available	8.77E-02	6.59E-01	7.47E-01	7.61	9.81E-02
4a_Copper	Not available	6.66E-01	4.09E+00	4.76E+00	4.05	**1.17E+00**
4a_Lead	Not available	3.69E+00	1.91E+01	2.28E+01	1.63	**1.40E+01**
4a_Manganese	Not available	5.04E+00	2.53E+01	3.03E+01	179.00	1.69E-01
4a_Mercury	Not available	1.05E-02	9.78E-02	1.08E-01	0.0180	**6.02E+00**
4a_Methylmercury	Not available	1.05E-02	9.78E-02	1.08E-01	0.0180	**6.02E+00**
4a_Nickel	Not available	1.67E-01	1.17E+00	1.34E+00	6.71	2.00E-01
4a_Selenium	Not available	3.42E-02	2.82E-01	3.17E-01	0.29	**1.09E+00**
4a_Silver	Not available	1.27E-02	1.16E-01	1.29E-01	2.02	6.37E-02
4a_Vanadium	Not available	4.52E-01	2.88E+00	3.33E+00	0.34	**9.69E+00**
4a_Zinc	Not available	7.50E+00	3.61E+01	4.36E+01	66.10	6.60E-01
4a_TCDD (bird)	Not available	1.32E-07	9.41E-08	2.26E-07	1.40E-05	1.61E-02
4a_TCDD (mammal)	Not available	2.01E-08	1.43E-08	3.44E-08	1.40E-05	2.46E-03
4a_Total DDTs	Not available	7.37E-05	5.26E-05	1.26E-04	0.23	5.56E-04
4a_Total HPAHs	Not available	3.13E-04	2.24E-04	5.38E-04	0.14	3.84E-03

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Canada Goose

BW	2.620	kg
FIR-dry	0.140	kg/d-dw
FIR-wet	0.468	kg/d-ww
WIR	0.112	L/d
SIR-dry	0.0115	kg/d-dw
SIR-wet	0.0384	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	100%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total LPAHs	Not available	2.08E-04	1.49E-04	3.57E-04	7.70	4.64E-05
4a_Total PCBs	Not available	1.07E-03	2.86E-03	3.93E-03	0.29	1.36E-02
4b_Antimony	Not available	1.84E-02	1.62E-01	1.80E-01	Not available	-
4b_Arsenic	Not available	7.15E-02	5.48E-01	6.20E-01	2.24	2.77E-01
4b_Barium	Not available	5.17E+00	2.59E+01	3.10E+01	208.30	1.49E-01
4b_Beryllium	Not available	1.18E-02	1.09E-01	1.21E-01	Not available	-
4b_Cadmium	Not available	5.57E-02	4.38E-01	4.94E-01	1.47	3.36E-01
4b_Chromium +3	Not available	4.43E-01	2.83E+00	3.27E+00	2.66	**1.23E+00**
4b_Cobalt	Not available	8.07E-02	6.11E-01	6.92E-01	7.61	9.10E-02
4b_Copper	Not available	4.27E-01	2.74E+00	3.17E+00	4.05	7.83E-01
4b_Lead	Not available	3.69E+00	1.91E+01	2.28E+01	1.63	**1.40E+01**
4b_Manganese	Not available	1.40E+01	6.35E+01	7.75E+01	179.00	4.33E-01
4b_Mercury	Not available	7.89E-03	7.55E-02	8.34E-02	0.0180	**4.63E+00**
4b_Methylmercury	Not available	7.89E-03	7.55E-02	8.34E-02	0.0180	**4.63E+00**
4b_Nickel	Not available	2.10E-01	1.45E+00	1.66E+00	6.71	2.47E-01
4b_Selenium	Not available	3.46E-02	2.86E-01	3.20E-01	0.29	**1.10E+00**
4b_Silver	Not available	7.45E-03	7.17E-02	7.91E-02	2.02	3.92E-02
4b_Vanadium	Not available	4.91E-01	3.11E+00	3.60E+00	0.34	**1.05E+01**
4b_Zinc	Not available	5.39E+00	2.69E+01	3.22E+01	66.10	4.88E-01
4b_TCDD (bird)	Not available	8.77E-08	6.27E-08	1.50E-07	1.40E-05	1.07E-02
4b_TCDD (mammal)	Not available	1.19E-08	8.53E-09	2.05E-08	1.40E-05	1.46E-03
4b_Total DDTs	Not available	1.50E-03	1.07E-03	2.57E-03	0.23	1.13E-02
4b_Total HPAHs	Not available	5.79E-04	4.14E-04	9.92E-04	0.14	7.09E-03
4b_Total LPAHs	Not available	1.45E-04	1.03E-04	2.48E-04	7.70	3.22E-05
4b_Total PCBs	Not available	2.41E-04	6.45E-04	8.86E-04	0.29	3.05E-03
5_Antimony	Not available	4.08E-02	3.31E-01	3.72E-01	Not available	-
5_Arsenic	Not available	9.64E-02	7.18E-01	8.15E-01	2.24	3.64E-01
5_Barium	Not available	4.73E+00	2.39E+01	2.86E+01	208.30	1.37E-01
5_Beryllium	Not available	1.27E-02	1.16E-01	1.29E-01	Not available	-
5_Cadmium	Not available	7.10E-02	5.45E-01	6.16E-01	1.47	4.19E-01
5_Chromium +3	Not available	4.43E-01	2.83E+00	3.27E+00	2.66	**1.23E+00**
5_Cobalt	Not available	8.50E-02	6.41E-01	7.26E-01	7.61	9.54E-02
5_Copper	Not available	3.93E-01	2.54E+00	2.94E+00	4.05	7.25E-01
5_Lead	Not available	2.56E+00	1.37E+01	1.63E+01	1.63	**9.98E+00**
5_Manganese	Not available	1.66E+01	7.38E+01	9.03E+01	179.00	5.05E-01
5_Mercury	Not available	5.48E-03	5.44E-02	5.98E-02	0.0180	**3.32E+00**
5_Methylmercury	Not available	5.48E-03	5.44E-02	5.98E-02	0.0180	**3.32E+00**
5_Nickel	Not available	2.20E-01	1.51E+00	1.73E+00	6.71	2.57E-01
5_Selenium	Not available	3.90E-02	3.18E-01	3.57E-01	0.29	**1.23E+00**
5_Silver	Not available	6.80E-03	6.60E-02	7.28E-02	2.02	3.60E-02
5_Vanadium	Not available	5.48E-01	3.43E+00	3.98E+00	0.34	**1.16E+01**
5_Zinc	Not available	5.48E+00	2.72E+01	3.27E+01	66.10	4.95E-01
5_TCDD (bird)	Not available	2.43E-07	1.74E-07	4.17E-07	1.40E-05	2.98E-02
5_TCDD (mammal)	Not available	3.26E-08	2.33E-08	5.60E-08	1.40E-05	4.00E-03
5_Total DDTs	Not available	2.25E-05	1.61E-05	3.86E-05	0.23	1.70E-04

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Canada Goose

Parameter	Value	Units
BW	2.620	kg
FIR-dry	0.140	kg/d-dw
FIR-wet	0.468	kg/d-ww
WIR	0.112	L/d
SIR-dry	0.0115	kg/d-dw
SIR-wet	0.0384	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	100%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_Total HPAHs	Not available	4.12E-04	2.95E-04	7.07E-04	0.14	5.05E-03
5_Total LPAHs	Not available	1.71E-04	1.22E-04	2.93E-04	7.70	3.81E-05
5_Total PCBs	Not available	3.51E-05	9.38E-05	1.29E-04	0.29	4.44E-04
6_Antimony	Not available	4.19E-02	3.39E-01	3.81E-01	Not available	-
6_Arsenic	Not available	6.80E-02	5.24E-01	5.92E-01	2.24	2.64E-01
6_Barium	Not available	4.52E+00	2.29E+01	2.74E+01	208.30	1.32E-01
6_Beryllium	Not available	1.18E-02	1.09E-01	1.21E-01	Not available	-
6_Cadmium	Not available	5.44E-02	4.29E-01	4.83E-01	1.47	3.29E-01
6_Chromium +3	Not available	3.46E-01	2.27E+00	2.62E+00	2.66	9.83E-01
6_Cobalt	Not available	8.50E-02	6.41E-01	7.26E-01	7.61	9.54E-02
6_Copper	Not available	3.92E-01	2.54E+00	2.93E+00	4.05	7.24E-01
6_Lead	Not available	2.03E+00	1.11E+01	1.31E+01	1.63	**8.07E+00**
6_Manganese	Not available	1.00E+01	4.70E+01	5.70E+01	179.00	3.19E-01
6_Mercury	Not available	7.89E-03	7.55E-02	8.34E-02	0.0180	**4.63E+00**
6_Methylmercury	Not available	7.89E-03	7.55E-02	8.34E-02	0.0180	**4.63E+00**
6_Nickel	Not available	1.72E-01	1.21E+00	1.38E+00	6.71	2.06E-01
6_Selenium	Not available	3.77E-02	3.08E-01	3.46E-01	0.29	**1.19E+00**
6_Silver	Not available	9.21E-03	8.67E-02	9.59E-02	2.02	4.75E-02
6_Vanadium	Not available	4.10E-01	2.64E+00	3.05E+00	0.34	**8.87E+00**
6_Zinc	Not available	5.30E+00	2.65E+01	3.18E+01	66.10	4.81E-01
6_TCDD (bird)	Not available	1.33E-07	9.53E-08	2.29E-07	1.40E-05	1.63E-02
6_TCDD (mammal)	Not available	2.48E-08	1.77E-08	4.25E-08	1.40E-05	3.04E-03
6_Total DDTs	Not available	1.37E-04	9.81E-05	2.35E-04	0.23	1.04E-03
6_Total HPAHs	Not available	3.18E-04	2.28E-04	5.46E-04	0.14	3.90E-03
6_Total LPAHs	Not available	1.93E-04	1.38E-04	3.31E-04	7.70	4.30E-05
6_Total PCBs	Not available	4.16E-05	1.11E-04	1.53E-04	0.29	5.28E-04

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Tundra Swan

			Diet (%)			
BW	6.650	kg				
FIR-dry	0.265	kg/d-dw				
FIR-wet	0.889	kg/d-ww	Fish	0%	Birds	0%
WIR	0.210	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0223	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0747	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	1%
AUF	1.0	Unitless	Aq. Plants	99%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	5.83E-01	3.41E+00	3.99E+00	Not available	-
1_Arsenic	2.72E-05	2.49E-01	1.59E+00	1.84E+00	2.24	8.20E-01
1_Barium	Not available	8.17E+00	3.67E+01	4.49E+01	208.30	2.16E-01
1_Beryllium	Not available	6.03E-03	5.57E-02	6.17E-02	Not available	-
1_Cadmium	7.58E-06	6.03E-02	4.43E-01	5.03E-01	1.47	3.42E-01
1_Chromium +3	2.62E-05	5.79E-01	3.39E+00	3.97E+00	2.66	**1.49E+00**
1_Cobalt	Not available	2.87E-01	1.80E+00	2.09E+00	7.61	2.75E-01
1_Copper	1.45E-04	1.11E+01	4.82E+01	5.92E+01	4.05	**1.46E+01**
1_Lead	6.19E-05	9.24E+00	4.10E+01	5.03E+01	1.63	**3.08E+01**
1_Manganese	Not available	1.65E+01	6.90E+01	8.55E+01	179.00	4.78E-01
1_Mercury	6.31E-08	2.28E-03	2.32E-02	2.55E-02	0.018	**1.42E+00**
1_Methylmercury	Not available	2.28E-03	2.32E-02	2.55E-02	0.018	**1.42E+00**
1_Nickel	3.00E-05	6.50E-02	4.73E-01	5.38E-01	6.71	8.02E-02
1_Selenium	Not available	6.53E-02	4.76E-01	5.41E-01	0.29	**1.87E+00**
1_Silver	1.58E-06	4.22E-02	3.21E-01	3.63E-01	2.02	1.80E-01
1_Vanadium	Not available	3.38E-01	2.09E+00	2.43E+00	0.34	**7.06E+00**
1_Zinc	1.42E-03	8.91E+01	3.15E+02	4.04E+02	66.10	**6.12E+00**
1_TCDD (bird)	Not available	3.45E-09	2.38E-09	5.83E-09	1.40E-05	4.16E-04
1_TCDD (mammal)	Not available	1.18E-09	8.14E-10	1.99E-09	1.40E-05	1.42E-04
1_Total DDTs	Not available	1.19E-05	8.19E-06	2.00E-05	0.23	8.83E-05
1_Total HPAHs	Not available	2.08E-03	1.44E-03	3.52E-03	0.14	2.52E-02
1_Total LPAHs	Not available	3.00E-04	2.07E-04	5.07E-04	7.70	6.58E-05
1_Total PCBs	Not available	1.34E-04	3.46E-04	4.80E-04	0.29	1.66E-03
2_Antimony	Not available	1.81E-01	1.19E+00	1.37E+00	Not available	-
2_Arsenic	Not available	1.78E-01	1.17E+00	1.35E+00	2.24	6.04E-01
2_Barium	Not available	7.13E+00	3.25E+01	3.96E+01	208.30	1.90E-01
2_Beryllium	Not available	8.04E-03	7.22E-02	8.02E-02	Not available	-
2_Cadmium	Not available	2.31E-02	1.87E-01	2.10E-01	1.47	1.43E-01
2_Chromium +3	Not available	5.02E-01	2.98E+00	3.49E+00	2.66	**1.31E+00**
2_Cobalt	Not available	2.24E-01	1.44E+00	1.67E+00	7.61	2.19E-01
2_Copper	Not available	1.01E+01	4.46E+01	5.48E+01	4.05	**1.35E+01**
2_Lead	Not available	5.32E+00	2.50E+01	3.03E+01	1.63	**1.86E+01**
2_Manganese	Not available	1.63E+01	6.83E+01	8.45E+01	179.00	4.72E-01
2_Mercury	Not available	3.68E-03	3.58E-02	3.95E-02	0.0180	**2.19E+00**
2_Methylmercury	Not available	3.68E-03	3.58E-02	3.95E-02	0.0180	**2.19E+00**
2_Nickel	Not available	7.70E-02	5.52E-01	6.29E-01	6.71	9.37E-02
2_Selenium	Not available	7.77E-02	5.56E-01	6.34E-01	0.29	**2.19E+00**
2_Silver	Not available	2.58E-02	2.06E-01	2.32E-01	2.02	1.15E-01
2_Vanadium	Not available	2.69E-01	1.70E+00	1.97E+00	0.34	**5.73E+00**
2_Zinc	Not available	8.34E+01	2.97E+02	3.80E+02	66.10	**5.76E+00**
2_TCDD (bird)	Not available	5.34E-08	3.69E-08	9.03E-08	1.40E-05	6.45E-03
2_TCDD (mammal)	Not available	7.63E-09	5.27E-09	1.29E-08	1.40E-05	9.21E-04
2_Total DDTs	Not available	1.09E-05	7.50E-06	1.83E-05	0.23	8.08E-05
2_Total HPAHs	Not available	2.08E-04	1.43E-04	3.51E-04	0.14	2.51E-03

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Tundra Swan

BW	6.650	kg					
FIR-dry	0.265	kg/d-dw	Diet (%)				
FIR-wet	0.889	kg/d-ww	Fish	0%	Birds	0%	
WIR	0.210	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0223	kg/d-dw	Mussels	0%	Reptiles	0%	
SIR-wet	0.0747	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	1%	
AUF	1.0	Unitless	Aq. Plants	99%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	9.04E-05	6.25E-05	1.53E-04	7.70	1.99E-05
2_Total PCBs	Not available	1.84E-04	4.76E-04	6.60E-04	0.29	2.28E-03
3_Antimony	Not available	1.42E-01	9.59E-01	1.10E+00	Not available	-
3_Arsenic	Not available	8.77E-02	6.20E-01	7.08E-01	2.24	3.16E-01
3_Barium	Not available	5.39E+00	2.53E+01	3.07E+01	208.30	1.47E-01
3_Beryllium	Not available	1.00E-02	8.82E-02	9.83E-02	Not available	-
3_Cadmium	Not available	2.44E-02	1.96E-01	2.21E-01	1.47	1.50E-01
3_Chromium +3	Not available	3.65E-01	2.24E+00	2.60E+00	2.66	9.79E-01
3_Cobalt	Not available	1.39E-01	9.41E-01	1.08E+00	7.61	1.42E-01
3_Copper	Not available	7.50E+00	3.40E+01	4.15E+01	4.05	**1.02E+01**
3_Lead	Not available	3.85E+00	1.87E+01	2.25E+01	1.63	**1.38E+01**
3_Manganese	Not available	1.57E+01	6.61E+01	8.18E+01	179.00	4.57E-01
3_Mercury	Not available	4.02E-03	3.87E-02	4.27E-02	0.0180	**2.37E+00**
3_Methylmercury	Not available	4.02E-03	3.87E-02	4.27E-02	0.0180	**2.37E+00**
3_Nickel	Not available	1.77E-01	1.17E+00	1.34E+00	6.71	2.00E-01
3_Selenium	Not available	7.84E-02	5.60E-01	6.39E-01	0.29	**2.20E+00**
3_Silver	Not available	1.67E-02	1.40E-01	1.56E-01	2.02	7.75E-02
3_Vanadium	Not available	3.68E-01	2.26E+00	2.63E+00	0.34	**7.63E+00**
3_Zinc	Not available	8.31E+01	2.96E+02	3.79E+02	66.10	**5.73E+00**
3_TCDD (bird)	Not available	8.47E-08	5.85E-08	1.43E-07	1.40E-05	1.02E-02
3_TCDD (mammal)	Not available	1.16E-08	7.98E-09	1.95E-08	1.40E-05	1.40E-03
3_Total DDTs	Not available	2.85E-05	1.97E-05	4.81E-05	0.23	2.12E-04
3_Total HPAHs	Not available	2.71E-04	1.87E-04	4.59E-04	0.14	3.28E-03
3_Total LPAHs	Not available	4.12E-04	2.85E-04	6.96E-04	7.70	9.05E-05
3_Total PCBs	Not available	3.01E-04	7.79E-04	1.08E-03	0.29	3.72E-03
4a_Antimony	Not available	2.39E-02	1.93E-01	2.17E-01	Not available	-
4a_Arsenic	Not available	6.76E-02	4.91E-01	5.59E-01	2.24	2.49E-01
4a_Barium	Not available	4.15E+00	2.00E+01	2.41E+01	208.30	1.16E-01
4a_Beryllium	Not available	1.00E-02	8.82E-02	9.83E-02	Not available	-
4a_Cadmium	Not available	4.76E-02	3.58E-01	4.05E-01	1.47	2.76E-01
4a_Chromium +3	Not available	2.57E-01	1.63E+00	1.89E+00	2.66	7.11E-01
4a_Cobalt	Not available	6.70E-02	4.87E-01	5.54E-01	7.61	7.27E-02
4a_Copper	Not available	5.09E-01	3.02E+00	3.53E+00	4.05	8.71E-01
4a_Lead	Not available	2.82E+00	1.41E+01	1.69E+01	1.63	**1.04E+01**
4a_Manganese	Not available	3.85E+00	1.87E+01	2.25E+01	179.00	1.26E-01
4a_Mercury	Not available	8.04E-03	7.22E-02	8.02E-02	0.0180	**4.46E+00**
4a_Methylmercury	Not available	8.04E-03	7.22E-02	8.02E-02	0.0180	**4.46E+00**
4a_Nickel	Not available	1.27E-01	8.67E-01	9.94E-01	6.71	1.48E-01
4a_Selenium	Not available	2.61E-02	2.09E-01	2.35E-01	0.29	8.09E-01
4a_Silver	Not available	9.71E-03	8.56E-02	9.53E-02	2.02	4.72E-02
4a_Vanadium	Not available	3.45E-01	2.13E+00	2.47E+00	0.34	**7.19E+00**
4a_Zinc	Not available	5.73E+00	2.67E+01	3.24E+01	66.10	4.90E-01
4a_TCDD (bird)	Not available	1.01E-07	6.95E-08	1.70E-07	1.40E-05	1.21E-02
4a_TCDD (mammal)	Not available	1.53E-08	1.06E-08	2.59E-08	1.40E-05	1.85E-03

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Tundra Swan

BW	6.650	kg				
FIR-dry	0.265	kg/d-dw	Diet (%)			
FIR-wet	0.889	kg/d-ww	Fish	0%	Birds	0%
WIR	0.210	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0223	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0747	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	1%
AUF	1.0	Unitless	Aq. Plants	99%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	5.63E-05	3.89E-05	9.51E-05	0.23	4.19E-04
4a_Total HPAHs	Not available	2.39E-04	1.65E-04	4.05E-04	0.14	2.89E-03
4a_Total LPAHs	Not available	1.59E-04	1.10E-04	2.69E-04	7.70	3.49E-05
4a_Total PCBs	Not available	8.17E-04	2.11E-03	2.93E-03	0.29	1.01E-02
4b_Antimony	Not available	1.41E-02	1.19E-01	1.34E-01	Not available	-
4b_Arsenic	Not available	5.46E-02	4.05E-01	4.59E-01	2.24	2.05E-01
4b_Barium	Not available	3.95E+00	1.91E+01	2.30E+01	208.30	1.11E-01
4b_Beryllium	Not available	9.04E-03	8.03E-02	8.93E-02	Not available	-
4b_Cadmium	Not available	4.25E-02	3.23E-01	3.66E-01	1.47	2.49E-01
4b_Chromium +3	Not available	3.38E-01	2.09E+00	2.43E+00	2.66	9.13E-01
4b_Cobalt	Not available	6.16E-02	4.51E-01	5.13E-01	7.61	6.74E-02
4b_Copper	Not available	3.27E-01	2.02E+00	2.35E+00	4.05	5.81E-01
4b_Lead	Not available	2.82E+00	1.41E+01	1.69E+01	1.63	**1.04E+01**
4b_Manganese	Not available	1.07E+01	4.69E+01	5.76E+01	179.00	3.22E-01
4b_Mercury	Not available	6.03E-03	5.57E-02	6.17E-02	0.0180	**3.43E+00**
4b_Methylmercury	Not available	6.03E-03	5.57E-02	6.17E-02	0.0180	**3.43E+00**
4b_Nickel	Not available	1.61E-01	1.07E+00	1.23E+00	6.71	1.83E-01
4b_Selenium	Not available	2.65E-02	2.11E-01	2.37E-01	0.29	8.19E-01
4b_Silver	Not available	5.69E-03	5.29E-02	5.86E-02	2.02	2.90E-02
4b_Vanadium	Not available	3.75E-01	2.29E+00	2.67E+00	0.34	**7.76E+00**
4b_Zinc	Not available	4.12E+00	1.98E+01	2.39E+01	66.10	3.62E-01
4b_TCDD (bird)	Not available	6.70E-08	4.63E-08	1.13E-07	1.40E-05	8.09E-03
4b_TCDD (mammal)	Not available	9.12E-09	6.30E-09	1.54E-08	1.40E-05	1.10E-03
4b_Total DDTs	Not available	1.14E-03	7.91E-04	1.93E-03	0.23	8.52E-03
4b_Total HPAHs	Not available	4.42E-04	3.05E-04	7.47E-04	0.14	5.34E-03
4b_Total LPAHs	Not available	1.11E-04	7.63E-05	1.87E-04	7.70	2.43E-05
4b_Total PCBs	Not available	1.84E-04	4.76E-04	6.60E-04	0.29	2.28E-03
5_Antimony	Not available	3.11E-02	2.44E-01	2.75E-01	Not available	-
5_Arsenic	Not available	7.37E-02	5.30E-01	6.04E-01	2.24	2.70E-01
5_Barium	Not available	3.62E+00	1.76E+01	2.13E+01	208.30	1.02E-01
5_Beryllium	Not available	9.71E-03	8.56E-02	9.53E-02	Not available	-
5_Cadmium	Not available	5.43E-02	4.03E-01	4.57E-01	1.47	3.11E-01
5_Chromium +3	Not available	3.38E-01	2.09E+00	2.43E+00	2.66	9.13E-01
5_Cobalt	Not available	6.50E-02	4.73E-01	5.38E-01	7.61	7.08E-02
5_Copper	Not available	3.00E-01	1.88E+00	2.18E+00	4.05	5.38E-01
5_Lead	Not available	1.95E+00	1.01E+01	1.21E+01	1.63	**7.41E+00**
5_Manganese	Not available	1.27E+01	5.45E+01	6.71E+01	179.00	3.75E-01
5_Mercury	Not available	4.19E-03	4.01E-02	4.43E-02	0.0180	**2.46E+00**
5_Methylmercury	Not available	4.19E-03	4.01E-02	4.43E-02	0.0180	**2.46E+00**
5_Nickel	Not available	1.68E-01	1.11E+00	1.28E+00	6.71	1.91E-01
5_Selenium	Not available	2.98E-02	2.35E-01	2.65E-01	0.29	9.12E-01
5_Silver	Not available	5.19E-03	4.87E-02	5.39E-02	2.02	2.67E-02
5_Vanadium	Not available	4.19E-01	2.53E+00	2.95E+00	0.34	**8.58E+00**
5_Zinc	Not available	4.19E+00	2.01E+01	2.43E+01	66.10	3.68E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Tundra Swan

BW	6.650	kg					
FIR-dry	0.265	kg/d-dw	Diet (%)				
FIR-wet	0.889	kg/d-ww	Fish	0%	Birds	0%
WIR	0.210	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0223	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0747	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	1%
AUF	1.0	Unitless	Aq. Plants	99%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	1.86E-07	1.28E-07	3.14E-07	1.40E-05	2.25E-02
5_TCDD (mammal)	Not available	2.49E-08	1.72E-08	4.21E-08	1.40E-05	3.01E-03
5_Total DDTs	Not available	1.72E-05	1.19E-05	2.91E-05	0.23	1.28E-04
5_Total HPAHs	Not available	3.15E-04	2.17E-04	5.32E-04	0.14	3.80E-03
5_Total LPAHs	Not available	1.31E-04	9.02E-05	2.21E-04	7.70	2.87E-05
5_Total PCBs	Not available	2.68E-05	6.92E-05	9.60E-05	0.29	3.31E-04
6_Antimony	Not available	3.20E-02	2.50E-01	2.82E-01	Not available	-
6_Arsenic	Not available	5.19E-02	3.87E-01	4.39E-01	2.24	1.96E-01
6_Barium	Not available	3.45E+00	1.69E+01	2.03E+01	208.30	9.77E-02
6_Beryllium	Not available	9.04E-03	8.03E-02	8.93E-02	Not available	-
6_Cadmium	Not available	4.15E-02	3.16E-01	3.58E-01	1.47	2.44E-01
6_Chromium +3	Not available	2.65E-01	1.68E+00	1.94E+00	2.66	7.29E-01
6_Cobalt	Not available	6.50E-02	4.73E-01	5.38E-01	7.61	7.08E-02
6_Copper	Not available	3.00E-01	1.87E+00	2.17E+00	4.05	5.37E-01
6_Lead	Not available	1.55E+00	8.21E+00	9.76E+00	1.63	**5.99E+00**
6_Manganese	Not available	7.67E+00	3.47E+01	4.24E+01	179.00	2.37E-01
6_Mercury	Not available	6.03E-03	5.57E-02	6.17E-02	0.0180	**3.43E+00**
6_Methylmercury	Not available	6.03E-03	5.57E-02	6.17E-02	0.0180	**3.43E+00**
6_Nickel	Not available	1.31E-01	8.92E-01	1.02E+00	6.71	1.52E-01
6_Selenium	Not available	2.88E-02	2.28E-01	2.56E-01	0.29	8.84E-01
6_Silver	Not available	7.03E-03	6.40E-02	7.10E-02	2.02	3.52E-02
6_Vanadium	Not available	3.13E-01	1.95E+00	2.26E+00	0.34	**6.58E+00**
6_Zinc	Not available	4.05E+00	1.95E+01	2.36E+01	66.10	3.57E-01
6_TCDD (bird)	Not available	1.02E-07	7.04E-08	1.72E-07	1.40E-05	1.23E-02
6_TCDD (mammal)	Not available	1.89E-08	1.31E-08	3.20E-08	1.40E-05	2.29E-03
6_Total DDTs	Not available	1.05E-04	7.24E-05	1.77E-04	0.23	7.81E-04
6_Total HPAHs	Not available	2.43E-04	1.68E-04	4.11E-04	0.14	2.94E-03
6_Total LPAHs	Not available	1.47E-04	1.02E-04	2.49E-04	7.70	3.24E-05
6_Total PCBs	Not available	3.18E-05	8.22E-05	1.14E-04	0.29	3.93E-04

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mallard

BW	1.134	kg
FIR-dry	0.055	kg/d-dw
FIR-wet	0.172	kg/d-ww
WIR	0.064	L/d
SIR-dry	0.0011	kg/d-dw
SIR-wet	0.0034	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	0%
Aq. Plants	50%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	1.69E-01	6.33E+00	6.50E+00	Not available	-
1_Arsenic	4.87E-05	7.23E-02	2.23E+00	2.30E+00	2.24	**1.03E+00**
1_Barium	Not available	2.37E+00	2.60E+02	2.62E+02	208.30	**1.26E+00**
1_Beryllium	Not available	1.75E-03	4.31E-02	4.48E-02	Not available	-
1_Cadmium	1.36E-05	1.75E-02	3.77E+00	3.79E+00	1.47	**2.58E+00**
1_Chromium +3	4.70E-05	1.68E-01	4.06E+00	4.22E+00	2.66	**1.59E+00**
1_Cobalt	Not available	8.33E-02	3.19E+00	3.28E+00	7.61	4.31E-01
1_Copper	2.59E-04	3.21E+00	4.51E+02	4.54E+02	4.05	**1.12E+02**
1_Lead	1.11E-04	2.68E+00	6.60E+01	6.87E+01	1.63	**4.21E+01**
1_Manganese	Not available	4.78E+00	2.37E+02	2.42E+02	179.00	**1.35E+00**
1_Mercury	1.13E-07	6.61E-04	6.17E-02	6.24E-02	0.018	**3.47E+00**
1_Methylmercury	Not available	6.61E-04	6.17E-02	6.24E-02	0.018	**3.47E+00**
1_Nickel	5.38E-05	1.89E-02	1.39E+00	1.40E+00	6.71	2.09E-01
1_Selenium	Not available	1.90E-02	3.39E+00	3.41E+00	0.29	**1.17E+01**
1_Silver	2.83E-06	1.22E-02	2.53E-01	2.65E-01	2.02	1.31E-01
1_Vanadium	Not available	9.82E-02	2.10E+00	2.20E+00	0.34	**6.38E+00**
1_Zinc	2.55E-03	2.59E+01	5.06E+03	5.09E+03	66.10	**7.69E+01**
1_TCDD (bird)	Not available	1.00E-09	8.68E-08	8.78E-08	1.40E-05	6.27E-03
1_TCDD (mammal)	Not available	3.42E-10	2.97E-08	3.00E-08	1.40E-05	2.14E-03
1_Total DDTs	Not available	3.44E-06	3.43E-03	3.43E-03	0.23	1.51E-02
1_Total HPAHs	Not available	6.05E-04	2.07E-01	2.08E-01	0.14	**1.48E+00**
1_Total LPAHs	Not available	8.70E-05	2.73E-02	2.74E-02	7.70	3.56E-03
1_Total PCBs	Not available	3.89E-05	2.58E-02	2.58E-02	0.29	8.89E-02
2_Antimony	Not available	5.24E-02	2.04E+00	2.09E+00	Not available	-
2_Arsenic	Not available	5.17E-02	1.61E+00	1.67E+00	2.24	7.44E-01
2_Barium	Not available	2.07E+00	2.27E+02	2.29E+02	208.30	**1.10E+00**
2_Beryllium	Not available	2.33E-03	5.61E-02	5.84E-02	Not available	-
2_Cadmium	Not available	6.71E-03	1.46E+00	1.46E+00	1.47	9.95E-01
2_Chromium +3	Not available	1.46E-01	3.54E+00	3.69E+00	2.66	**1.39E+00**
2_Cobalt	Not available	6.50E-02	2.51E+00	2.58E+00	7.61	3.39E-01
2_Copper	Not available	2.95E+00	4.14E+02	4.17E+02	4.05	**1.03E+02**
2_Lead	Not available	1.55E+00	3.88E+01	4.04E+01	1.63	**2.48E+01**
2_Manganese	Not available	4.72E+00	2.35E+02	2.39E+02	179.00	**1.34E+00**
2_Mercury	Not available	1.07E-03	9.88E-02	9.98E-02	0.0180	**5.55E+00**
2_Methylmercury	Not available	1.07E-03	9.88E-02	9.98E-02	0.0180	**5.55E+00**
2_Nickel	Not available	2.24E-02	1.64E+00	1.66E+00	6.71	2.47E-01
2_Selenium	Not available	2.26E-02	4.02E+00	4.05E+00	0.29	**1.40E+01**
2_Silver	Not available	7.49E-03	1.61E-01	1.68E-01	2.02	8.32E-02
2_Vanadium	Not available	7.82E-02	1.69E+00	1.77E+00	0.34	**5.15E+00**
2_Zinc	Not available	2.42E+01	4.74E+03	4.76E+03	66.10	**7.20E+01**
2_TCDD (bird)	Not available	1.55E-08	1.34E-06	1.36E-06	1.40E-05	9.71E-02
2_TCDD (mammal)	Not available	2.21E-09	1.92E-07	1.94E-07	1.40E-05	1.39E-02
2_Total DDTs	Not available	3.15E-06	3.14E-03	3.14E-03	0.23	1.38E-02
2_Total HPAHs	Not available	6.03E-05	2.07E-02	2.07E-02	0.14	1.48E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mallard

BW	1.134	kg
FIR-dry	0.055	kg/d-dw
FIR-wet	0.172	kg/d-ww
WIR	0.064	L/d
SIR-dry	0.0011	kg/d-dw
SIR-wet	0.0034	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	0%
Aq. Plants	50%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	2.62E-05	8.25E-03	8.27E-03	7.70	1.07E-03
2_Total PCBs	Not available	5.35E-05	3.54E-02	3.55E-02	0.29	1.22E-01
3_Antimony	Not available	4.13E-02	1.62E+00	1.66E+00	Not available	-
3_Arsenic	Not available	2.55E-02	8.21E-01	8.47E-01	2.24	3.78E-01
3_Barium	Not available	1.57E+00	1.72E+02	1.74E+02	208.30	8.34E-01
3_Beryllium	Not available	2.92E-03	6.89E-02	7.18E-02	Not available	-
3_Cadmium	Not available	7.10E-03	1.54E+00	1.55E+00	1.47	**1.05E+00**
3_Chromium +3	Not available	1.06E-01	2.62E+00	2.72E+00	2.66	**1.02E+00**
3_Cobalt	Not available	4.04E-02	1.59E+00	1.63E+00	7.61	2.14E-01
3_Copper	Not available	2.18E+00	3.07E+02	3.09E+02	4.05	**7.63E+01**
3_Lead	Not available	1.12E+00	2.85E+01	2.96E+01	1.63	**1.81E+01**
3_Manganese	Not available	4.56E+00	2.27E+02	2.31E+02	179.00	**1.29E+00**
3_Mercury	Not available	1.17E-03	1.08E-01	1.09E-01	0.0180	**6.04E+00**
3_Methylmercury	Not available	1.17E-03	1.08E-01	1.09E-01	0.0180	**6.04E+00**
3_Nickel	Not available	5.13E-02	3.69E+00	3.75E+00	6.71	5.58E-01
3_Selenium	Not available	2.27E-02	4.06E+00	4.08E+00	0.29	**1.41E+01**
3_Silver	Not available	4.86E-03	1.08E-01	1.13E-01	2.02	5.58E-02
3_Vanadium	Not available	1.07E-01	2.27E+00	2.38E+00	0.34	**6.92E+00**
3_Zinc	Not available	2.41E+01	4.72E+03	4.74E+03	66.10	**7.18E+01**
3_TCDD (bird)	Not available	2.46E-08	2.13E-06	2.16E-06	1.40E-05	1.54E-01
3_TCDD (mammal)	Not available	3.35E-09	2.91E-07	2.94E-07	1.40E-05	2.10E-02
3_Total DDTs	Not available	8.26E-06	8.23E-03	8.24E-03	0.23	3.63E-02
3_Total HPAHs	Not available	7.87E-05	2.70E-02	2.71E-02	0.14	1.93E-01
3_Total LPAHs	Not available	1.20E-04	3.76E-02	3.77E-02	7.70	4.89E-03
3_Total PCBs	Not available	8.75E-05	5.79E-02	5.80E-02	0.29	2.00E-01
4a_Antimony	Not available	6.95E-03	2.92E-01	2.99E-01	Not available	-
4a_Arsenic	Not available	1.96E-02	6.41E-01	6.61E-01	2.24	2.95E-01
4a_Barium	Not available	1.21E+00	1.33E+02	1.34E+02	208.30	6.44E-01
4a_Beryllium	Not available	2.92E-03	6.89E-02	7.18E-02	Not available	-
4a_Cadmium	Not available	1.38E-02	2.98E+00	2.99E+00	1.47	**2.04E+00**
4a_Chromium +3	Not available	7.47E-02	1.88E+00	1.95E+00	2.66	7.35E-01
4a_Cobalt	Not available	1.94E-02	7.86E-01	8.05E-01	7.61	1.06E-01
4a_Copper	Not available	1.48E-01	2.13E+01	2.14E+01	4.05	**5.28E+00**
4a_Lead	Not available	8.18E-01	2.11E+01	2.19E+01	1.63	**1.34E+01**
4a_Manganese	Not available	1.12E+00	5.70E+01	5.82E+01	179.00	3.25E-01
4a_Mercury	Not available	2.33E-03	2.12E-01	2.14E-01	0.0180	**1.19E+01**
4a_Methylmercury	Not available	2.33E-03	2.12E-01	2.14E-01	0.0180	**1.19E+01**
4a_Nickel	Not available	3.69E-02	2.68E+00	2.71E+00	6.71	4.04E-01
4a_Selenium	Not available	7.58E-03	1.37E+00	1.37E+00	0.29	**4.74E+00**
4a_Silver	Not available	2.82E-03	6.54E-02	6.82E-02	2.02	3.38E-02
4a_Vanadium	Not available	1.00E-01	2.14E+00	2.24E+00	0.34	**6.50E+00**
4a_Zinc	Not available	1.66E+00	3.29E+02	3.31E+02	66.10	**5.01E+00**
4a_TCDD (bird)	Not available	2.92E-08	2.53E-06	2.56E-06	1.40E-05	1.83E-01
4a_TCDD (mammal)	Not available	4.45E-09	3.86E-07	3.90E-07	1.40E-05	2.79E-02

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mallard

BW	1.134	kg
FIR-dry	0.055	kg/d-dw
FIR-wet	0.172	kg/d-ww
WIR	0.064	L/d
SIR-dry	0.0011	kg/d-dw
SIR-wet	0.0034	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	0%
Aq. Plants	50%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	1.63E-05	1.63E-02	1.63E-02	0.23	7.18E-02
4a_Total HPAHs	Not available	6.95E-05	2.38E-02	2.39E-02	0.14	1.71E-01
4a_Total LPAHs	Not available	4.62E-05	1.45E-02	1.46E-02	7.70	1.89E-03
4a_Total PCBs	Not available	2.37E-04	1.57E-01	1.57E-01	0.29	5.42E-01
4b_Antimony	Not available	4.08E-03	1.76E-01	1.80E-01	Not available	-
4b_Arsenic	Not available	1.58E-02	5.23E-01	5.38E-01	2.24	2.40E-01
4b_Barium	Not available	1.15E+00	1.26E+02	1.28E+02	208.30	6.13E-01
4b_Beryllium	Not available	2.62E-03	6.25E-02	6.52E-02	Not available	-
4b_Cadmium	Not available	1.23E-02	2.67E+00	2.68E+00	1.47	**1.82E+00**
4b_Chromium +3	Not available	9.82E-02	2.44E+00	2.53E+00	2.66	9.53E-01
4b_Cobalt	Not available	1.79E-02	7.25E-01	7.43E-01	7.61	9.76E-02
4b_Copper	Not available	9.48E-02	1.37E+01	1.38E+01	4.05	**3.40E+00**
4b_Lead	Not available	8.18E-01	2.11E+01	2.19E+01	1.63	**1.34E+01**
4b_Manganese	Not available	3.11E+00	1.56E+02	1.59E+02	179.00	8.87E-01
4b_Mercury	Not available	1.75E-03	1.60E-01	1.62E-01	0.0180	**8.98E+00**
4b_Methylmercury	Not available	1.75E-03	1.60E-01	1.62E-01	0.0180	**8.98E+00**
4b_Nickel	Not available	4.67E-02	3.37E+00	3.41E+00	6.71	5.08E-01
4b_Selenium	Not available	7.68E-03	1.38E+00	1.39E+00	0.29	**4.80E+00**
4b_Silver	Not available	1.65E-03	4.00E-02	4.17E-02	2.02	2.06E-02
4b_Vanadium	Not available	1.09E-01	2.31E+00	2.42E+00	0.34	**7.03E+00**
4b_Zinc	Not available	1.20E+00	2.37E+02	2.38E+02	66.10	**3.61E+00**
4b_TCDD (bird)	Not available	1.94E-08	1.69E-06	1.71E-06	1.40E-05	1.22E-01
4b_TCDD (mammal)	Not available	2.65E-09	2.30E-07	2.32E-07	1.40E-05	1.66E-02
4b_Total DDTs	Not available	3.32E-04	3.31E-01	3.31E-01	0.23	**1.46E+00**
4b_Total HPAHs	Not available	1.28E-04	4.40E-02	4.41E-02	0.14	3.15E-01
4b_Total LPAHs	Not available	3.21E-05	1.01E-02	1.01E-02	7.70	1.31E-03
4b_Total PCBs	Not available	5.35E-05	3.54E-02	3.55E-02	0.29	1.22E-01
5_Antimony	Not available	9.04E-03	3.76E-01	3.85E-01	Not available	-
5_Arsenic	Not available	2.14E-02	6.95E-01	7.17E-01	2.24	3.20E-01
5_Barium	Not available	1.05E+00	1.16E+02	1.17E+02	208.30	5.61E-01
5_Beryllium	Not available	2.82E-03	6.68E-02	6.96E-02	Not available	-
5_Cadmium	Not available	1.57E-02	3.40E+00	3.41E+00	1.47	**2.32E+00**
5_Chromium +3	Not available	9.82E-02	2.44E+00	2.53E+00	2.66	9.53E-01
5_Cobalt	Not available	1.89E-02	7.63E-01	7.82E-01	7.61	1.03E-01
5_Copper	Not available	8.72E-02	1.26E+01	1.27E+01	4.05	**3.13E+00**
5_Lead	Not available	5.67E-01	1.48E+01	1.54E+01	1.63	**9.45E+00**
5_Manganese	Not available	3.67E+00	1.83E+02	1.87E+02	179.00	**1.04E+00**
5_Mercury	Not available	1.22E-03	1.12E-01	1.13E-01	0.0180	**6.28E+00**
5_Methylmercury	Not available	1.22E-03	1.12E-01	1.13E-01	0.0180	**6.28E+00**
5_Nickel	Not available	4.87E-02	3.51E+00	3.56E+00	6.71	5.30E-01
5_Selenium	Not available	8.65E-03	1.56E+00	1.57E+00	0.29	**5.40E+00**
5_Silver	Not available	1.51E-03	3.68E-02	3.83E-02	2.02	1.89E-02
5_Vanadium	Not available	1.22E-01	2.56E+00	2.68E+00	0.34	**7.80E+00**
5_Zinc	Not available	1.22E+00	2.41E+02	2.42E+02	66.10	**3.67E+00**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mallard

BW	1.134	kg					
FIR-dry	0.055	kg/d-dw	Diet (%)				
FIR-wet	0.172	kg/d-ww	Fish	0%	Birds	0%
WIR	0.064	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0011	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0034	kg/d-ww	Aq. Inverts	50%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	50%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	5.40E-08	4.68E-06	4.74E-06	1.40E-05	3.38E-01
5_TCDD (mammal)	Not available	7.24E-09	6.28E-07	6.35E-07	1.40E-05	4.54E-02
5_Total DDTs	Not available	5.00E-06	4.98E-03	4.98E-03	0.23	2.20E-02
5_Total HPAHs	Not available	9.14E-05	3.13E-02	3.14E-02	0.14	2.24E-01
5_Total LPAHs	Not available	3.79E-05	1.19E-02	1.20E-02	7.70	1.55E-03
5_Total PCBs	Not available	7.78E-06	5.15E-03	5.16E-03	0.29	1.78E-02
6_Antimony	Not available	9.28E-03	3.86E-01	3.95E-01	Not available	-
6_Arsenic	Not available	1.51E-02	4.98E-01	5.13E-01	2.24	2.29E-01
6_Barium	Not available	1.00E+00	1.11E+02	1.12E+02	208.30	5.35E-01
6_Beryllium	Not available	2.62E-03	6.25E-02	6.52E-02	Not available	-
6_Cadmium	Not available	1.21E-02	2.61E+00	2.62E+00	1.47	**1.78E+00**
6_Chromium +3	Not available	7.68E-02	1.93E+00	2.01E+00	2.66	7.55E-01
6_Cobalt	Not available	1.89E-02	7.63E-01	7.82E-01	7.61	1.03E-01
6_Copper	Not available	8.70E-02	1.26E+01	1.27E+01	4.05	**3.13E+00**
6_Lead	Not available	4.49E-01	1.19E+01	1.23E+01	1.63	**7.56E+00**
6_Manganese	Not available	2.23E+00	1.12E+02	1.14E+02	179.00	6.39E-01
6_Mercury	Not available	1.75E-03	1.60E-01	1.62E-01	0.0180	**8.98E+00**
6_Methylmercury	Not available	1.75E-03	1.60E-01	1.62E-01	0.0180	**8.98E+00**
6_Nickel	Not available	3.81E-02	2.76E+00	2.80E+00	6.71	4.17E-01
6_Selenium	Not available	8.36E-03	1.51E+00	1.51E+00	0.29	**5.22E+00**
6_Silver	Not available	2.04E-03	4.86E-02	5.06E-02	2.02	2.51E-02
6_Vanadium	Not available	9.09E-02	1.95E+00	2.04E+00	0.34	**5.93E+00**
6_Zinc	Not available	1.18E+00	2.33E+02	2.35E+02	66.10	**3.55E+00**
6_TCDD (bird)	Not available	2.96E-08	2.57E-06	2.60E-06	1.40E-05	1.85E-01
6_TCDD (mammal)	Not available	5.50E-09	4.77E-07	4.82E-07	1.40E-05	3.44E-02
6_Total DDTs	Not available	3.04E-05	3.03E-02	3.04E-02	0.23	1.34E-01
6_Total HPAHs	Not available	7.06E-05	2.42E-02	2.43E-02	0.14	1.73E-01
6_Total LPAHs	Not available	4.28E-05	1.34E-02	1.35E-02	7.70	1.75E-03
6_Total PCBs	Not available	9.24E-06	6.12E-03	6.12E-03	0.29	2.11E-02

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Lesser Scaup

BW	0.820	kg					
FIR-dry	0.045	kg/d-dw	Diet (%)				
FIR-wet	0.141	kg/d-ww	Fish	44%	Birds	0%	
WIR	0.052	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0021	kg/d-dw	Mussels	2%	Reptiles	0%	
SIR-wet	0.0066	kg/d-ww	Aq. Inverts	26%	Ter. Inverts	0%	
AUF	1.0	Unitless	Aq. Plants	28%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	4.49E-01	4.05E+00	4.50E+00	Not available	-
1_Arsenic	5.42E-05	1.92E-01	1.44E+00	1.63E+00	2.24	7.26E-01
1_Barium	Not available	6.29E+00	1.65E+02	1.71E+02	208.30	8.23E-01
1_Beryllium	Not available	4.64E-03	2.75E-02	3.21E-02	Not available	-
1_Cadmium	1.51E-05	4.64E-02	2.41E+00	2.46E+00	1.47	**1.67E+00**
1_Chromium +3	5.23E-05	4.46E-01	2.83E+00	3.28E+00	2.66	**1.23E+00**
1_Cobalt	Not available	2.21E-01	2.05E+00	2.27E+00	7.61	2.98E-01
1_Copper	2.89E-04	8.51E+00	2.86E+02	2.94E+02	4.05	**7.27E+01**
1_Lead	1.23E-04	7.12E+00	4.23E+01	4.94E+01	1.63	**3.03E+01**
1_Manganese	Not available	1.27E+01	1.52E+02	1.65E+02	179.00	9.22E-01
1_Mercury	1.26E-07	1.75E-03	5.83E-02	6.00E-02	0.018	**3.34E+00**
1_Methylmercury	Not available	1.75E-03	5.83E-02	6.00E-02	0.018	**3.34E+00**
1_Nickel	5.98E-05	5.00E-02	9.53E-01	1.00E+00	6.71	1.49E-01
1_Selenium	Not available	5.03E-02	2.23E+00	2.28E+00	0.29	**7.85E+00**
1_Silver	3.15E-06	3.25E-02	1.63E-01	1.95E-01	2.02	9.67E-02
1_Vanadium	Not available	2.60E-01	1.35E+00	1.61E+00	0.34	**4.69E+00**
1_Zinc	2.83E-03	6.86E+01	3.21E+03	3.28E+03	66.10	**4.96E+01**
1_TCDD (bird)	Not available	2.65E-09	1.15E-06	1.16E-06	1.40E-05	8.26E-02
1_TCDD (mammal)	Not available	9.08E-10	7.42E-07	7.43E-07	1.40E-05	5.31E-02
1_Total DDTs	Not available	9.13E-06	2.17E-03	2.18E-03	0.23	9.59E-03
1_Total HPAHs	Not available	1.60E-03	1.31E-01	1.33E-01	0.14	9.47E-01
1_Total LPAHs	Not available	2.31E-04	1.73E-02	1.75E-02	7.70	2.27E-03
1_Total PCBs	Not available	1.03E-04	2.74E-02	2.75E-02	0.29	9.49E-02
2_Antimony	Not available	1.39E-01	1.30E+00	1.43E+00	Not available	-
2_Arsenic	Not available	1.37E-01	1.11E+00	1.25E+00	2.24	5.56E-01
2_Barium	Not available	5.49E+00	1.44E+02	1.50E+02	208.30	7.18E-01
2_Beryllium	Not available	6.19E-03	3.57E-02	4.19E-02	Not available	-
2_Cadmium	Not available	1.78E-02	9.64E-01	9.82E-01	1.47	6.68E-01
2_Chromium +3	Not available	3.87E-01	2.37E+00	2.75E+00	2.66	**1.04E+00**
2_Cobalt	Not available	1.72E-01	1.59E+00	1.77E+00	7.61	2.32E-01
2_Copper	Not available	7.81E+00	2.62E+02	2.70E+02	4.05	**6.66E+01**
2_Lead	Not available	4.10E+00	2.49E+01	2.90E+01	1.63	**1.78E+01**
2_Manganese	Not available	1.25E+01	1.49E+02	1.61E+02	179.00	9.02E-01
2_Mercury	Not available	2.84E-03	8.27E-02	8.56E-02	0.0180	**4.75E+00**
2_Methylmercury	Not available	2.84E-03	8.27E-02	8.56E-02	0.0180	**4.75E+00**
2_Nickel	Not available	5.93E-02	1.10E+00	1.16E+00	6.71	1.72E-01
2_Selenium	Not available	5.98E-02	2.63E+00	2.69E+00	0.29	**9.27E+00**
2_Silver	Not available	1.99E-02	1.05E-01	1.25E-01	2.02	6.17E-02
2_Vanadium	Not available	2.07E-01	1.09E+00	1.29E+00	0.34	**3.76E+00**
2_Zinc	Not available	6.42E+01	3.00E+03	3.06E+03	66.10	**4.63E+01**
2_TCDD (bird)	Not available	4.11E-08	2.00E-06	2.04E-06	1.40E-05	1.46E-01
2_TCDD (mammal)	Not available	5.87E-09	7.51E-07	7.57E-07	1.40E-05	5.40E-02
2_Total DDTs	Not available	8.35E-06	1.98E-03	1.99E-03	0.23	8.78E-03
2_Total HPAHs	Not available	1.60E-04	1.31E-02	1.32E-02	0.14	9.44E-02

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Lesser Scaup

BW	0.820	kg
FIR-dry	0.045	kg/d-dw
FIR-wet	0.141	kg/d-ww
WIR	0.052	L/d
SIR-dry	0.0021	kg/d-dw
SIR-wet	0.0066	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	44%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	26%	Ter. Inverts	0%
Aq. Plants	28%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	6.96E-05	5.21E-03	5.28E-03	7.70	6.86E-04
2_Total PCBs	Not available	1.42E-04	7.86E-02	7.87E-02	0.29	2.72E-01
3_Antimony	Not available	1.10E-01	1.03E+00	1.14E+00	Not available	-
3_Arsenic	Not available	6.75E-02	5.98E-01	6.65E-01	2.24	2.97E-01
3_Barium	Not available	4.15E+00	1.09E+02	1.14E+02	208.30	5.45E-01
3_Beryllium	Not available	7.73E-03	4.38E-02	5.15E-02	Not available	-
3_Cadmium	Not available	1.88E-02	1.01E+00	1.03E+00	1.47	7.03E-01
3_Chromium +3	Not available	2.81E-01	1.75E+00	2.03E+00	2.66	7.64E-01
3_Cobalt	Not available	1.07E-01	1.01E+00	1.12E+00	7.61	1.47E-01
3_Copper	Not available	5.78E+00	1.94E+02	2.00E+02	4.05	**4.94E+01**
3_Lead	Not available	2.96E+00	1.83E+01	2.13E+01	1.63	**1.31E+01**
3_Manganese	Not available	1.21E+01	1.44E+02	1.56E+02	179.00	8.71E-01
3_Mercury	Not available	3.09E-03	9.87E-02	1.02E-01	0.0180	**5.66E+00**
3_Methylmercury	Not available	3.09E-03	9.87E-02	1.02E-01	0.0180	**5.66E+00**
3_Nickel	Not available	1.36E-01	2.39E+00	2.52E+00	6.71	3.76E-01
3_Selenium	Not available	6.03E-02	2.66E+00	2.72E+00	0.29	**9.38E+00**
3_Silver	Not available	1.29E-02	7.12E-02	8.41E-02	2.02	4.16E-02
3_Vanadium	Not available	2.84E-01	1.46E+00	1.74E+00	0.34	**5.06E+00**
3_Zinc	Not available	6.39E+01	2.98E+03	3.05E+03	66.10	**4.61E+01**
3_TCDD (bird)	Not available	6.52E-08	2.03E-06	2.10E-06	1.40E-05	1.50E-01
3_TCDD (mammal)	Not available	8.89E-09	5.51E-07	5.60E-07	1.40E-05	4.00E-02
3_Total DDTs	Not available	2.19E-05	5.20E-03	5.23E-03	0.23	2.30E-02
3_Total HPAHs	Not available	2.09E-04	1.71E-02	1.73E-02	0.14	1.23E-01
3_Total LPAHs	Not available	3.17E-04	2.37E-02	2.41E-02	7.70	3.12E-03
3_Total PCBs	Not available	2.32E-04	4.80E-02	4.82E-02	0.29	1.66E-01
4a_Antimony	Not available	1.84E-02	1.90E-01	2.08E-01	Not available	-
4a_Arsenic	Not available	5.21E-02	5.15E-01	5.68E-01	2.24	2.53E-01
4a_Barium	Not available	3.20E+00	8.47E+01	8.79E+01	208.30	4.22E-01
4a_Beryllium	Not available	7.73E-03	4.38E-02	5.15E-02	Not available	-
4a_Cadmium	Not available	3.66E-02	1.92E+00	1.95E+00	1.47	**1.33E+00**
4a_Chromium +3	Not available	1.98E-01	1.38E+00	1.57E+00	2.66	5.92E-01
4a_Cobalt	Not available	5.16E-02	5.06E-01	5.58E-01	7.61	7.33E-02
4a_Copper	Not available	3.92E-01	1.36E+01	1.40E+01	4.05	**3.45E+00**
4a_Lead	Not available	2.17E+00	1.35E+01	1.57E+01	1.63	**9.63E+00**
4a_Manganese	Not available	2.96E+00	3.69E+01	3.99E+01	179.00	2.23E-01
4a_Mercury	Not available	6.19E-03	1.63E-01	1.69E-01	0.0180	**9.38E+00**
4a_Methylmercury	Not available	6.19E-03	1.63E-01	1.69E-01	0.0180	**9.38E+00**
4a_Nickel	Not available	9.80E-02	1.77E+00	1.87E+00	6.71	2.79E-01
4a_Selenium	Not available	2.01E-02	9.42E-01	9.62E-01	0.29	**3.32E+00**
4a_Silver	Not available	7.48E-03	4.43E-02	5.18E-02	2.02	2.57E-02
4a_Vanadium	Not available	2.66E-01	1.38E+00	1.64E+00	0.34	**4.77E+00**
4a_Zinc	Not available	4.41E+00	2.10E+02	2.15E+02	66.10	**3.25E+00**
4a_TCDD (bird)	Not available	7.74E-08	2.51E-06	2.59E-06	1.40E-05	1.85E-01
4a_TCDD (mammal)	Not available	1.18E-08	8.78E-07	8.89E-07	1.40E-05	6.35E-02

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Lesser Scaup

BW	0.820	kg
FIR-dry	0.045	kg/d-dw
FIR-wet	0.141	kg/d-ww
WIR	0.052	L/d
SIR-dry	0.0021	kg/d-dw
SIR-wet	0.0066	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	44%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	26%	Ter. Inverts	0%
Aq. Plants	28%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	4.33E-05	1.03E-02	1.03E-02	0.23	4.55E-02
4a_Total HPAHs	Not available	1.84E-04	1.51E-02	1.52E-02	0.14	1.09E-01
4a_Total LPAHs	Not available	1.22E-04	9.17E-03	9.29E-03	7.70	1.21E-03
4a_Total PCBs	Not available	6.29E-04	1.21E-01	1.21E-01	0.29	4.19E-01
4b_Antimony	Not available	1.08E-02	1.16E-01	1.27E-01	Not available	-
4b_Arsenic	Not available	4.20E-02	4.41E-01	4.83E-01	2.24	2.15E-01
4b_Barium	Not available	3.04E+00	8.07E+01	8.37E+01	208.30	4.02E-01
4b_Beryllium	Not available	6.96E-03	3.98E-02	4.67E-02	Not available	-
4b_Cadmium	Not available	3.27E-02	1.72E+00	1.75E+00	1.47	**1.19E+00**
4b_Chromium +3	Not available	2.60E-01	1.73E+00	1.99E+00	2.66	7.47E-01
4b_Cobalt	Not available	4.74E-02	4.68E-01	5.16E-01	7.61	6.78E-02
4b_Copper	Not available	2.51E-01	8.82E+00	9.07E+00	4.05	**2.24E+00**
4b_Lead	Not available	2.17E+00	1.35E+01	1.57E+01	1.63	**9.63E+00**
4b_Manganese	Not available	8.25E+00	9.92E+01	1.07E+02	179.00	6.00E-01
4b_Mercury	Not available	4.64E-03	1.30E-01	1.35E-01	0.0180	**7.47E+00**
4b_Methylmercury	Not available	4.64E-03	1.30E-01	1.35E-01	0.0180	**7.47E+00**
4b_Nickel	Not available	1.24E-01	2.21E+00	2.33E+00	6.71	3.47E-01
4b_Selenium	Not available	2.04E-02	9.53E-01	9.73E-01	0.29	**3.36E+00**
4b_Silver	Not available	4.38E-03	2.83E-02	3.27E-02	2.02	1.62E-02
4b_Vanadium	Not available	2.89E-01	1.49E+00	1.78E+00	0.34	**5.16E+00**
4b_Zinc	Not available	3.17E+00	1.52E+02	1.55E+02	66.10	**2.35E+00**
4b_TCDD (bird)	Not available	5.16E-08	1.98E-06	2.03E-06	1.40E-05	1.45E-01
4b_TCDD (mammal)	Not available	7.02E-09	7.79E-07	7.86E-07	1.40E-05	5.61E-02
4b_Total DDTs	Not available	8.81E-04	2.09E-01	2.10E-01	0.23	9.25E-01
4b_Total HPAHs	Not available	3.40E-04	2.78E-02	2.81E-02	0.14	2.01E-01
4b_Total LPAHs	Not available	8.51E-05	6.37E-03	6.46E-03	7.70	8.38E-04
4b_Total PCBs	Not available	1.42E-04	4.39E-02	4.40E-02	0.29	1.52E-01
5_Antimony	Not available	2.40E-02	2.43E-01	2.67E-01	Not available	-
5_Arsenic	Not available	5.67E-02	5.57E-01	6.14E-01	2.24	2.74E-01
5_Barium	Not available	2.78E+00	7.42E+01	7.70E+01	208.30	3.70E-01
5_Beryllium	Not available	7.48E-03	4.25E-02	4.99E-02	Not available	-
5_Cadmium	Not available	4.18E-02	2.17E+00	2.22E+00	1.47	**1.51E+00**
5_Chromium +3	Not available	2.60E-01	1.71E+00	1.97E+00	2.66	7.41E-01
5_Cobalt	Not available	5.00E-02	4.90E-01	5.40E-01	7.61	7.10E-02
5_Copper	Not available	2.31E-01	8.12E+00	8.35E+00	4.05	**2.06E+00**
5_Lead	Not available	1.50E+00	9.44E+00	1.09E+01	1.63	**6.72E+00**
5_Manganese	Not available	9.75E+00	1.17E+02	1.26E+02	179.00	7.06E-01
5_Mercury	Not available	3.22E-03	9.90E-02	1.02E-01	0.0180	**5.68E+00**
5_Methylmercury	Not available	3.22E-03	9.90E-02	1.02E-01	0.0180	**5.68E+00**
5_Nickel	Not available	1.29E-01	2.28E+00	2.41E+00	6.71	3.59E-01
5_Selenium	Not available	2.29E-02	1.05E+00	1.07E+00	0.29	**3.69E+00**
5_Silver	Not available	4.00E-03	2.63E-02	3.03E-02	2.02	1.50E-02
5_Vanadium	Not available	3.22E-01	1.64E+00	1.96E+00	0.34	**5.70E+00**
5_Zinc	Not available	3.22E+00	1.55E+02	1.58E+02	66.10	**2.39E+00**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Lesser Scaup

			Diet (%)			
BW	0.820	kg				
FIR-dry	0.045	kg/d-dw				
FIR-wet	0.141	kg/d-ww	Fish	44%	Birds	0%
WIR	0.052	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0021	kg/d-dw	Mussels	2%	Reptiles	0%
SIR-wet	0.0066	kg/d-ww	Aq. Inverts	26%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	28%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	1.43E-07	4.07E-06	4.22E-06	1.40E-05	3.01E-01
5_TCDD (mammal)	Not available	1.92E-08	1.06E-06	1.08E-06	1.40E-05	7.68E-02
5_Total DDTs	Not available	1.33E-05	3.15E-03	3.16E-03	0.23	1.39E-02
5_Total HPAHs	Not available	2.42E-04	1.98E-02	2.00E-02	0.14	1.43E-01
5_Total LPAHs	Not available	1.01E-04	7.53E-03	7.63E-03	7.70	9.91E-04
5_Total PCBs	Not available	2.06E-05	2.33E-02	2.33E-02	0.29	8.03E-02
6_Antimony	Not available	2.46E-02	2.49E-01	2.74E-01	Not available	-
6_Arsenic	Not available	4.00E-02	4.23E-01	4.63E-01	2.24	2.07E-01
6_Barium	Not available	2.66E+00	7.07E+01	7.33E+01	208.30	3.52E-01
6_Beryllium	Not available	6.96E-03	3.98E-02	4.67E-02	Not available	-
6_Cadmium	Not available	3.20E-02	1.67E+00	1.71E+00	1.47	**1.16E+00**
6_Chromium +3	Not available	2.04E-01	1.38E+00	1.58E+00	2.66	5.95E-01
6_Cobalt	Not available	5.00E-02	4.89E-01	5.39E-01	7.61	7.09E-02
6_Copper	Not available	2.31E-01	8.13E+00	8.36E+00	4.05	**2.06E+00**
6_Lead	Not available	1.19E+00	7.58E+00	8.77E+00	1.63	**5.38E+00**
6_Manganese	Not available	5.90E+00	7.16E+01	7.75E+01	179.00	4.33E-01
6_Mercury	Not available	4.64E-03	1.30E-01	1.34E-01	0.0180	**7.46E+00**
6_Methylmercury	Not available	4.64E-03	1.30E-01	1.34E-01	0.0180	**7.46E+00**
6_Nickel	Not available	1.01E-01	1.81E+00	1.91E+00	6.71	2.85E-01
6_Selenium	Not available	2.22E-02	1.01E+00	1.03E+00	0.29	**3.56E+00**
6_Silver	Not available	5.41E-03	3.37E-02	3.91E-02	2.02	1.94E-02
6_Vanadium	Not available	2.41E-01	1.26E+00	1.50E+00	0.34	**4.37E+00**
6_Zinc	Not available	3.12E+00	1.50E+02	1.53E+02	66.10	**2.32E+00**
6_TCDD (bird)	Not available	7.84E-08	3.18E-06	3.26E-06	1.40E-05	2.33E-01
6_TCDD (mammal)	Not available	1.46E-08	1.29E-06	1.30E-06	1.40E-05	9.32E-02
6_Total DDTs	Not available	8.07E-05	1.92E-02	1.92E-02	0.23	8.48E-02
6_Total HPAHs	Not available	1.87E-04	1.53E-02	1.55E-02	0.14	1.10E-01
6_Total LPAHs	Not available	1.13E-04	8.49E-03	8.61E-03	7.70	1.12E-03
6_Total PCBs	Not available	2.45E-05	1.76E-02	1.76E-02	0.29	6.06E-02

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Spotted Sandpiper

BW	0.043	kg
FIR-dry	0.009	kg/d-dw
FIR-wet	0.034	kg/d-ww
WIR	0.007	L/d
SIR-dry	0.0017	kg/d-dw
SIR-wet	0.0062	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	98%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	6.88E+00	3.82E+01	4.51E+01	Not available	-
1_Arsenic	1.44E-04	2.94E+00	1.13E+01	1.42E+01	2.24	**6.34E+00**
1_Barium	Not available	9.64E+01	2.14E+03	2.24E+03	208.30	**1.07E+01**
1_Beryllium	Not available	7.11E-02	7.90E-02	1.50E-01	Not available	-
1_Cadmium	4.02E-05	7.11E-01	3.16E+01	3.23E+01	1.47	**2.20E+01**
1_Chromium +3	1.39E-04	6.84E+00	1.78E+01	2.46E+01	2.66	**9.25E+00**
1_Cobalt	Not available	3.39E+00	1.88E+01	2.22E+01	7.61	**2.92E+00**
1_Copper	7.66E-04	1.30E+02	3.80E+03	3.93E+03	4.05	**9.71E+02**
1_Lead	3.28E-04	1.09E+02	3.68E+02	4.77E+02	1.63	**2.93E+02**
1_Manganese	Not available	1.94E+02	1.76E+03	1.96E+03	179.00	**1.09E+01**
1_Mercury	3.35E-07	2.69E-02	4.28E-01	4.55E-01	0.018	**2.53E+01**
1_Methylmercury	Not available	2.69E-02	4.28E-01	4.55E-01	0.018	**2.53E+01**
1_Nickel	1.59E-04	7.67E-01	9.88E+00	1.06E+01	6.71	**1.59E+00**
1_Selenium	Not available	7.71E-01	2.80E+01	2.87E+01	0.29	**9.91E+01**
1_Silver	8.36E-06	4.98E-01	4.98E-01	9.96E-01	2.02	4.93E-01
1_Vanadium	Not available	3.99E+00	7.32E+00	1.13E+01	0.34	**3.29E+01**
1_Zinc	7.53E-03	1.05E+03	4.40E+04	4.50E+04	66.10	**6.81E+02**
1_TCDD (bird)	Not available	4.07E-08	7.71E-07	8.11E-07	1.40E-05	5.80E-02
1_TCDD (mammal)	Not available	1.39E-08	2.64E-07	2.78E-07	1.40E-05	1.98E-02
1_Total DDTs	Not available	1.40E-04	3.09E-02	3.11E-02	0.23	1.37E-01
1_Total HPAHs	Not available	2.46E-02	1.86E+00	1.89E+00	0.14	**1.35E+01**
1_Total LPAHs	Not available	3.54E-03	2.46E-01	2.49E-01	7.70	3.24E-02
1_Total PCBs	Not available	1.58E-03	2.31E-01	2.32E-01	0.29	8.01E-01
2_Antimony	Not available	2.13E+00	1.18E+01	1.40E+01	Not available	-
2_Arsenic	Not available	2.10E+00	8.06E+00	1.02E+01	2.24	**4.54E+00**
2_Barium	Not available	8.42E+01	1.87E+03	1.95E+03	208.30	**9.38E+00**
2_Beryllium	Not available	9.48E-02	1.05E-01	2.00E-01	Not available	-
2_Cadmium	Not available	2.73E-01	1.21E+01	1.24E+01	1.47	**8.43E+00**
2_Chromium +3	Not available	5.93E+00	1.54E+01	2.13E+01	2.66	**8.02E+00**
2_Cobalt	Not available	2.64E+00	1.47E+01	1.73E+01	7.61	**2.28E+00**
2_Copper	Not available	1.20E+02	3.49E+03	3.61E+03	4.05	**8.92E+02**
2_Lead	Not available	6.28E+01	2.12E+02	2.75E+02	1.63	**1.69E+02**
2_Manganese	Not available	1.92E+02	1.74E+03	1.93E+03	179.00	**1.08E+01**
2_Mercury	Not available	4.35E-02	6.93E-01	7.37E-01	0.0180	**4.09E+01**
2_Methylmercury	Not available	4.35E-02	6.93E-01	7.37E-01	0.0180	**4.09E+01**
2_Nickel	Not available	9.09E-01	1.17E+01	1.26E+01	6.71	**1.88E+00**
2_Selenium	Not available	9.17E-01	3.33E+01	3.42E+01	0.29	**1.18E+02**
2_Silver	Not available	3.04E-01	3.04E-01	6.09E-01	2.02	3.01E-01
2_Vanadium	Not available	3.18E+00	5.82E+00	9.00E+00	0.34	**2.62E+01**
2_Zinc	Not available	9.84E+02	4.11E+04	4.21E+04	66.10	**6.37E+02**
2_TCDD (bird)	Not available	6.30E-07	1.19E-05	1.26E-05	1.40E-05	8.98E-01
2_TCDD (mammal)	Not available	9.00E-08	1.71E-06	1.80E-06	1.40E-05	1.28E-01
2_Total DDTs	Not available	1.28E-04	2.83E-02	2.84E-02	0.23	1.25E-01
2_Total HPAHs	Not available	2.45E-03	1.86E-01	1.88E-01	0.14	**1.34E+00**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Spotted Sandpiper

BW	0.043	kg
FIR-dry	0.009	kg/d-dw
FIR-wet	0.034	kg/d-ww
WIR	0.007	L/d
SIR-dry	0.0017	kg/d-dw
SIR-wet	0.0062	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	98%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	1.07E-03	7.41E-02	7.52E-02	7.70	9.77E-03
2_Total PCBs	Not available	2.17E-03	3.17E-01	3.19E-01	0.29	**1.10E+00**
3_Antimony	Not available	1.68E+00	9.33E+00	1.10E+01	Not available	-
3_Arsenic	Not available	1.04E+00	3.97E+00	5.00E+00	2.24	**2.23E+00**
3_Barium	Not available	6.36E+01	1.41E+03	1.48E+03	208.30	**7.09E+00**
3_Beryllium	Not available	1.19E-01	1.32E-01	2.50E-01	Not available	-
3_Cadmium	Not available	2.88E-01	1.28E+01	1.31E+01	1.47	**8.92E+00**
3_Chromium +3	Not available	4.31E+00	1.12E+01	1.55E+01	2.66	**5.83E+00**
3_Cobalt	Not available	1.64E+00	9.13E+00	1.08E+01	7.61	**1.42E+00**
3_Copper	Not available	8.85E+01	2.58E+03	2.67E+03	4.05	**6.59E+02**
3_Lead	Not available	4.54E+01	1.53E+02	1.99E+02	1.63	**1.22E+02**
3_Manganese	Not available	1.85E+02	1.68E+03	1.86E+03	179.00	**1.04E+01**
3_Mercury	Not available	4.74E-02	7.56E-01	8.04E-01	0.0180	**4.46E+01**
3_Methylmercury	Not available	4.74E-02	7.56E-01	8.04E-01	0.0180	**4.46E+01**
3_Nickel	Not available	2.09E+00	2.69E+01	2.90E+01	6.71	**4.32E+00**
3_Selenium	Not available	9.25E-01	3.35E+01	3.45E+01	0.29	**1.19E+02**
3_Silver	Not available	1.98E-01	1.98E-01	3.95E-01	2.02	1.96E-01
3_Vanadium	Not available	4.35E+00	7.97E+00	1.23E+01	0.34	**3.58E+01**
3_Zinc	Not available	9.80E+02	4.10E+04	4.20E+04	66.10	**6.35E+02**
3_TCDD (bird)	Not available	9.99E-07	1.89E-05	1.99E-05	1.40E-05	**1.42E+00**
3_TCDD (mammal)	Not available	1.36E-07	2.58E-06	2.72E-06	1.40E-05	1.94E-01
3_Total DDTs	Not available	3.36E-04	7.43E-02	7.46E-02	0.23	3.29E-01
3_Total HPAHs	Not available	3.20E-03	2.43E-01	2.46E-01	0.14	**1.76E+00**
3_Total LPAHs	Not available	4.86E-03	3.38E-01	3.43E-01	7.70	4.45E-02
3_Total PCBs	Not available	3.56E-03	5.19E-01	5.23E-01	0.29	**1.80E+00**
4a_Antimony	Not available	2.83E-01	1.57E+00	1.85E+00	Not available	-
4a_Arsenic	Not available	7.98E-01	3.06E+00	3.86E+00	2.24	**1.72E+00**
4a_Barium	Not available	4.90E+01	1.09E+03	1.14E+03	208.30	**5.46E+00**
4a_Beryllium	Not available	1.19E-01	1.32E-01	2.50E-01	Not available	-
4a_Cadmium	Not available	5.61E-01	2.49E+01	2.55E+01	1.47	**1.73E+01**
4a_Chromium +3	Not available	3.03E+00	7.89E+00	1.09E+01	2.66	**4.11E+00**
4a_Cobalt	Not available	7.90E-01	4.39E+00	5.18E+00	7.61	6.81E-01
4a_Copper	Not available	6.01E+00	1.75E+02	1.81E+02	4.05	**4.47E+01**
4a_Lead	Not available	3.32E+01	1.12E+02	1.45E+02	1.63	**8.91E+01**
4a_Manganese	Not available	4.54E+01	4.12E+02	4.57E+02	179.00	**2.55E+00**
4a_Mercury	Not available	9.48E-02	1.51E+00	1.61E+00	0.0180	**8.93E+01**
4a_Methylmercury	Not available	9.48E-02	1.51E+00	1.61E+00	0.0180	**8.93E+01**
4a_Nickel	Not available	1.50E+00	1.94E+01	2.09E+01	6.71	**3.11E+00**
4a_Selenium	Not available	3.08E-01	1.12E+01	1.15E+01	0.29	**3.96E+01**
4a_Silver	Not available	1.15E-01	1.15E-01	2.29E-01	2.02	1.13E-01
4a_Vanadium	Not available	4.07E+00	7.46E+00	1.15E+01	0.34	**3.35E+01**
4a_Zinc	Not available	6.76E+01	2.83E+03	2.89E+03	66.10	**4.38E+01**
4a_TCDD (bird)	Not available	1.19E-06	2.25E-05	2.37E-05	1.40E-05	**1.69E+00**
4a_TCDD (mammal)	Not available	1.81E-07	3.43E-06	3.61E-06	1.40E-05	2.58E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Spotted Sandpiper

BW	0.043	kg
FIR-dry	0.009	kg/d-dw
FIR-wet	0.034	kg/d-ww
WIR	0.007	L/d
SIR-dry	0.0017	kg/d-dw
SIR-wet	0.0062	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	2%	Reptiles	0%
Aq. Inverts	98%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	6.64E-04	1.47E-01	1.47E-01	0.23	6.50E-01
4a_Total HPAHs	Not available	2.83E-03	2.14E-01	2.17E-01	0.14	**1.55E+00**
4a_Total LPAHs	Not available	1.88E-03	1.30E-01	1.32E-01	7.70	1.72E-02
4a_Total PCBs	Not available	9.64E-03	1.41E+00	1.42E+00	0.29	**4.89E+00**
4b_Antimony	Not available	1.66E-01	9.22E-01	1.09E+00	Not available	-
4b_Arsenic	Not available	6.44E-01	2.47E+00	3.11E+00	2.24	**1.39E+00**
4b_Barium	Not available	4.66E+01	1.04E+03	1.08E+03	208.30	**5.20E+00**
4b_Beryllium	Not available	1.07E-01	1.19E-01	2.25E-01	Not available	-
4b_Cadmium	Not available	5.02E-01	2.23E+01	2.28E+01	1.47	**1.55E+01**
4b_Chromium +3	Not available	3.99E+00	1.04E+01	1.44E+01	2.66	**5.40E+00**
4b_Cobalt	Not available	7.27E-01	4.04E+00	4.77E+00	7.61	6.26E-01
4b_Copper	Not available	3.85E+00	1.12E+02	1.16E+02	4.05	**2.87E+01**
4b_Lead	Not available	3.32E+01	1.12E+02	1.45E+02	1.63	**8.91E+01**
4b_Manganese	Not available	1.26E+02	1.15E+03	1.27E+03	179.00	**7.10E+00**
4b_Mercury	Not available	7.11E-02	1.13E+00	1.21E+00	0.0180	**6.70E+01**
4b_Methylmercury	Not available	7.11E-02	1.13E+00	1.21E+00	0.0180	**6.70E+01**
4b_Nickel	Not available	1.90E+00	2.44E+01	2.63E+01	6.71	**3.93E+00**
4b_Selenium	Not available	3.12E-01	1.13E+01	1.16E+01	0.29	**4.01E+01**
4b_Silver	Not available	6.72E-02	6.72E-02	1.34E-01	2.02	6.65E-02
4b_Vanadium	Not available	4.43E+00	8.11E+00	1.25E+01	0.34	**3.65E+01**
4b_Zinc	Not available	4.86E+01	2.03E+03	2.08E+03	66.10	**3.15E+01**
4b_TCDD (bird)	Not available	7.90E-07	1.50E-05	1.58E-05	1.40E-05	**1.13E+00**
4b_TCDD (mammal)	Not available	1.08E-07	2.04E-06	2.15E-06	1.40E-05	1.53E-01
4b_Total DDTs	Not available	1.35E-02	2.99E+00	3.00E+00	0.23	**1.32E+01**
4b_Total HPAHs	Not available	5.22E-03	3.95E-01	4.01E-01	0.14	**2.86E+00**
4b_Total LPAHs	Not available	1.30E-03	9.06E-02	9.19E-02	7.70	1.19E-02
4b_Total PCBs	Not available	2.17E-03	3.17E-01	3.19E-01	0.29	**1.10E+00**
5_Antimony	Not available	3.68E-01	2.04E+00	2.41E+00	Not available	-
5_Arsenic	Not available	8.69E-01	3.33E+00	4.20E+00	2.24	**1.88E+00**
5_Barium	Not available	4.27E+01	9.48E+02	9.91E+02	208.30	**4.76E+00**
5_Beryllium	Not available	1.15E-01	1.27E-01	2.42E-01	Not available	-
5_Cadmium	Not available	6.40E-01	2.85E+01	2.91E+01	1.47	**1.98E+01**
5_Chromium +3	Not available	3.99E+00	1.04E+01	1.44E+01	2.66	**5.40E+00**
5_Cobalt	Not available	7.67E-01	4.26E+00	5.03E+00	7.61	6.60E-01
5_Copper	Not available	3.54E+00	1.03E+02	1.07E+02	4.05	**2.64E+01**
5_Lead	Not available	2.30E+01	7.77E+01	1.01E+02	1.63	**6.18E+01**
5_Manganese	Not available	1.49E+02	1.35E+03	1.50E+03	179.00	**8.39E+00**
5_Mercury	Not available	4.94E-02	7.88E-01	8.37E-01	0.0180	**4.65E+01**
5_Methylmercury	Not available	4.94E-02	7.88E-01	8.37E-01	0.0180	**4.65E+01**
5_Nickel	Not available	1.98E+00	2.55E+01	2.75E+01	6.71	**4.10E+00**
5_Selenium	Not available	3.52E-01	1.28E+01	1.31E+01	0.29	**4.52E+01**
5_Silver	Not available	6.13E-02	6.13E-02	1.23E-01	2.02	6.06E-02
5_Vanadium	Not available	4.94E+00	9.06E+00	1.40E+01	0.34	**4.07E+01**
5_Zinc	Not available	4.94E+01	2.07E+03	2.11E+03	66.10	**3.20E+01**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Spotted Sandpiper

BW	0.043	kg					
FIR-dry	0.009	kg/d-dw	Diet (%)				
FIR-wet	0.034	kg/d-ww	Fish	0%	Birds	0%	
WIR	0.007	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0017	kg/d-dw	Mussels	2%	Reptiles	0%	
SIR-wet	0.0062	kg/d-ww	Aq. Inverts	98%	Ter. Inverts	0%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	2.19E-06	4.16E-05	4.38E-05	1.40E-05	**3.13E+00**
5_TCDD (mammal)	Not available	2.94E-07	5.57E-06	5.87E-06	1.40E-05	4.19E-01
5_Total DDTs	Not available	2.03E-04	4.49E-02	4.51E-02	0.23	1.99E-01
5_Total HPAHs	Not available	3.71E-03	2.82E-01	2.85E-01	0.14	**2.04E+00**
5_Total LPAHs	Not available	1.54E-03	1.07E-01	1.09E-01	7.70	1.41E-02
5_Total PCBs	Not available	3.16E-04	4.61E-02	4.65E-02	0.29	1.60E-01
6_Antimony	Not available	3.77E-01	2.10E+00	2.47E+00	Not available	-
6_Arsenic	Not available	6.13E-01	2.35E+00	2.96E+00	2.24	**1.32E+00**
6_Barium	Not available	4.07E+01	9.05E+02	9.45E+02	208.30	**4.54E+00**
6_Beryllium	Not available	1.07E-01	1.19E-01	2.25E-01	Not available	-
6_Cadmium	Not available	4.90E-01	2.18E+01	2.23E+01	1.47	**1.51E+01**
6_Chromium +3	Not available	3.12E+00	8.12E+00	1.12E+01	2.66	**4.23E+00**
6_Cobalt	Not available	7.67E-01	4.26E+00	5.03E+00	7.61	6.60E-01
6_Copper	Not available	3.54E+00	1.03E+02	1.07E+02	4.05	**2.63E+01**
6_Lead	Not available	1.83E+01	6.16E+01	7.98E+01	1.63	**4.90E+01**
6_Manganese	Not available	9.05E+01	8.19E+02	9.10E+02	179.00	**5.08E+00**
6_Mercury	Not available	7.11E-02	1.13E+00	1.21E+00	0.0180	**6.70E+01**
6_Methylmercury	Not available	7.11E-02	1.13E+00	1.21E+00	0.0180	**6.70E+01**
6_Nickel	Not available	1.55E+00	2.00E+01	2.15E+01	6.71	**3.21E+00**
6_Selenium	Not available	3.40E-01	1.23E+01	1.27E+01	0.29	**4.37E+01**
6_Silver	Not available	8.30E-02	8.30E-02	1.66E-01	2.02	8.22E-02
6_Vanadium	Not available	3.69E+00	6.77E+00	1.05E+01	0.34	**3.04E+01**
6_Zinc	Not available	4.78E+01	2.00E+03	2.05E+03	66.10	**3.10E+01**
6_TCDD (bird)	Not available	1.20E-06	2.28E-05	2.40E-05	1.40E-05	**1.71E+00**
6_TCDD (mammal)	Not available	2.23E-07	4.23E-06	4.46E-06	1.40E-05	3.18E-01
6_Total DDTs	Not available	1.24E-03	2.73E-01	2.75E-01	0.23	**1.21E+00**
6_Total HPAHs	Not available	2.87E-03	2.18E-01	2.20E-01	0.14	**1.57E+00**
6_Total LPAHs	Not available	1.74E-03	1.21E-01	1.23E-01	7.70	1.59E-02
6_Total PCBs	Not available	3.75E-04	5.48E-02	5.52E-02	0.29	1.90E-01

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Swallow

BW	0.020	kg					
FIR-dry	0.004	kg/d-dw	Diet (%)				
FIR-wet	0.014	kg/d-ww	Fish	0%	Birds	0%	
WIR	0.004	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0001	kg/d-dw	Mussels	0%	Reptiles	0%	
SIR-wet	0.0003	kg/d-ww	Aq. Inverts	50%	Ter. Inverts	50%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	7.75E-01	1.94E+01	2.02E+01	Not available	-
1_Arsenic	1.84E-04	3.32E-01	5.72E+00	6.05E+00	2.24	**2.70E+00**
1_Barium	Not available	1.09E+01	1.09E+03	1.10E+03	208.30	**5.27E+00**
1_Beryllium	Not available	8.02E-03	4.01E-02	4.81E-02	Not available	-
1_Cadmium	5.14E-05	8.02E-02	1.60E+01	1.61E+01	1.47	**1.10E+01**
1_Chromium +3	1.78E-04	7.71E-01	9.02E+00	9.79E+00	2.66	**3.68E+00**
1_Cobalt	Not available	3.82E-01	9.55E+00	9.93E+00	7.61	**1.30E+00**
1_Copper	9.81E-04	1.47E+01	1.93E+03	1.94E+03	4.05	**4.80E+02**
1_Lead	4.20E-04	1.23E+01	1.87E+02	1.99E+02	1.63	**1.22E+02**
1_Manganese	Not available	2.19E+01	8.93E+02	9.15E+02	179.00	**5.11E+00**
1_Mercury	4.28E-07	3.03E-03	2.17E-01	2.20E-01	0.018	**1.22E+01**
1_Methylmercury	Not available	3.03E-03	2.17E-01	2.20E-01	0.018	**1.22E+01**
1_Nickel	2.03E-04	8.65E-02	5.01E+00	5.10E+00	6.71	7.60E-01
1_Selenium	Not available	8.69E-02	1.42E+01	1.43E+01	0.29	**4.92E+01**
1_Silver	1.07E-05	5.62E-02	2.53E-01	3.09E-01	2.02	1.53E-01
1_Vanadium	Not available	4.50E-01	3.71E+00	4.16E+00	0.34	**1.21E+01**
1_Zinc	9.64E-03	1.19E+02	2.23E+04	2.24E+04	66.10	**3.39E+02**
1_TCDD (bird)	Not available	4.59E-09	3.91E-07	3.96E-07	1.40E-05	2.83E-02
1_TCDD (mammal)	Not available	1.57E-09	1.34E-07	1.35E-07	1.40E-05	9.67E-03
1_Total DDTs	Not available	1.58E-05	1.57E-02	1.57E-02	0.23	6.92E-02
1_Total HPAHs	Not available	2.77E-03	9.46E-01	9.48E-01	0.14	**6.77E+00**
1_Total LPAHs	Not available	3.99E-04	1.25E-01	1.25E-01	7.70	1.63E-02
1_Total PCBs	Not available	1.78E-04	1.17E-01	1.17E-01	0.29	4.04E-01
2_Antimony	Not available	2.40E-01	6.00E+00	6.25E+00	Not available	-
2_Arsenic	Not available	2.37E-01	4.09E+00	4.33E+00	2.24	**1.93E+00**
2_Barium	Not available	9.49E+00	9.49E+02	9.59E+02	208.30	**4.60E+00**
2_Beryllium	Not available	1.07E-02	5.35E-02	6.42E-02	Not available	-
2_Cadmium	Not available	3.07E-02	6.15E+00	6.18E+00	1.47	**4.20E+00**
2_Chromium +3	Not available	6.68E-01	7.82E+00	8.49E+00	2.66	**3.19E+00**
2_Cobalt	Not available	2.98E-01	7.45E+00	7.75E+00	7.61	**1.02E+00**
2_Copper	Not available	1.35E+01	1.77E+03	1.79E+03	4.05	**4.41E+02**
2_Lead	Not available	7.09E+00	1.08E+02	1.15E+02	1.63	**7.03E+01**
2_Manganese	Not available	2.17E+01	8.83E+02	9.04E+02	179.00	**5.05E+00**
2_Mercury	Not available	4.90E-03	3.52E-01	3.57E-01	0.0180	**1.98E+01**
2_Methylmercury	Not available	4.90E-03	3.52E-01	3.57E-01	0.0180	**1.98E+01**
2_Nickel	Not available	1.02E-01	5.94E+00	6.05E+00	6.71	9.01E-01
2_Selenium	Not available	1.03E-01	1.69E+01	1.70E+01	0.29	**5.86E+01**
2_Silver	Not available	3.43E-02	1.54E-01	1.89E-01	2.02	9.34E-02
2_Vanadium	Not available	3.58E-01	2.96E+00	3.31E+00	0.34	**9.63E+00**
2_Zinc	Not available	1.11E+02	2.09E+04	2.10E+04	66.10	**3.18E+02**
2_TCDD (bird)	Not available	7.10E-08	6.06E-06	6.13E-06	1.40E-05	4.38E-01
2_TCDD (mammal)	Not available	1.01E-08	8.65E-07	8.76E-07	1.40E-05	6.25E-02
2_Total DDTs	Not available	1.44E-05	1.44E-02	1.44E-02	0.23	6.34E-02
2_Total HPAHs	Not available	2.76E-04	9.43E-02	9.45E-02	0.14	6.75E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Swallow

BW	0.020	kg
FIR-dry	0.004	kg/d-dw
FIR-wet	0.014	kg/d-ww
WIR	0.004	L/d
SIR-dry	0.0001	kg/d-dw
SIR-wet	0.0003	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	50%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	1.20E-04	3.76E-02	3.77E-02	7.70	4.90E-03
2_Total PCBs	Not available	2.45E-04	1.61E-01	1.61E-01	0.29	5.56E-01
3_Antimony	Not available	1.89E-01	4.73E+00	4.92E+00	Not available	-
3_Arsenic	Not available	1.17E-01	2.01E+00	2.13E+00	2.24	9.51E-01
3_Barium	Not available	7.17E+00	7.17E+02	7.25E+02	208.30	**3.48E+00**
3_Beryllium	Not available	1.34E-02	6.68E-02	8.02E-02	Not available	-
3_Cadmium	Not available	3.25E-02	6.51E+00	6.54E+00	1.47	**4.45E+00**
3_Chromium +3	Not available	4.86E-01	5.68E+00	6.17E+00	2.66	**2.32E+00**
3_Cobalt	Not available	1.85E-01	4.63E+00	4.82E+00	7.61	6.33E-01
3_Copper	Not available	9.98E+00	1.31E+03	1.32E+03	4.05	**3.26E+02**
3_Lead	Not available	5.12E+00	7.78E+01	8.29E+01	1.63	**5.09E+01**
3_Manganese	Not available	2.09E+01	8.52E+02	8.73E+02	179.00	**4.87E+00**
3_Mercury	Not available	5.35E-03	3.84E-01	3.89E-01	0.0180	**2.16E+01**
3_Methylmercury	Not available	5.35E-03	3.84E-01	3.89E-01	0.0180	**2.16E+01**
3_Nickel	Not available	2.35E-01	1.36E+01	1.39E+01	6.71	**2.07E+00**
3_Selenium	Not available	1.04E-01	1.70E+01	1.71E+01	0.29	**5.91E+01**
3_Silver	Not available	2.23E-02	1.00E-01	1.23E-01	2.02	6.07E-02
3_Vanadium	Not available	4.90E-01	4.04E+00	4.53E+00	0.34	**1.32E+01**
3_Zinc	Not available	1.11E+02	2.08E+04	2.09E+04	66.10	**3.16E+02**
3_TCDD (bird)	Not available	1.13E-07	9.61E-06	9.72E-06	1.40E-05	6.95E-01
3_TCDD (mammal)	Not available	1.54E-08	1.31E-06	1.33E-06	1.40E-05	9.48E-02
3_Total DDTs	Not available	3.79E-05	3.77E-02	3.77E-02	0.23	1.66E-01
3_Total HPAHs	Not available	3.61E-04	1.23E-01	1.24E-01	0.14	8.82E-01
3_Total LPAHs	Not available	5.48E-04	1.71E-01	1.72E-01	7.70	2.23E-02
3_Total PCBs	Not available	4.01E-04	2.63E-01	2.64E-01	0.29	9.10E-01
4a_Antimony	Not available	3.19E-02	7.97E-01	8.28E-01	Not available	-
4a_Arsenic	Not available	9.00E-02	1.55E+00	1.64E+00	2.24	7.33E-01
4a_Barium	Not available	5.53E+00	5.53E+02	5.58E+02	208.30	**2.68E+00**
4a_Beryllium	Not available	1.34E-02	6.68E-02	8.02E-02	Not available	-
4a_Cadmium	Not available	6.33E-02	1.27E+01	1.27E+01	1.47	**8.65E+00**
4a_Chromium +3	Not available	3.42E-01	4.00E+00	4.35E+00	2.66	**1.63E+00**
4a_Cobalt	Not available	8.91E-02	2.23E+00	2.32E+00	7.61	3.05E-01
4a_Copper	Not available	6.77E-01	8.89E+01	8.96E+01	4.05	**2.21E+01**
4a_Lead	Not available	3.75E+00	5.69E+01	6.06E+01	1.63	**3.72E+01**
4a_Manganese	Not available	5.12E+00	2.09E+02	2.14E+02	179.00	**1.20E+00**
4a_Mercury	Not available	1.07E-02	7.67E-01	7.78E-01	0.0180	**4.32E+01**
4a_Methylmercury	Not available	1.07E-02	7.67E-01	7.78E-01	0.0180	**4.32E+01**
4a_Nickel	Not available	1.69E-01	9.82E+00	9.99E+00	6.71	**1.49E+00**
4a_Selenium	Not available	3.48E-02	5.67E+00	5.71E+00	0.29	**1.97E+01**
4a_Silver	Not available	1.29E-02	5.82E-02	7.11E-02	2.02	3.52E-02
4a_Vanadium	Not available	4.59E-01	3.79E+00	4.25E+00	0.34	**1.23E+01**
4a_Zinc	Not available	7.62E+00	1.43E+03	1.44E+03	66.10	**2.18E+01**
4a_TCDD (bird)	Not available	1.34E-07	1.14E-05	1.15E-05	1.40E-05	8.25E-01
4a_TCDD (mammal)	Not available	2.04E-08	1.74E-06	1.76E-06	1.40E-05	1.26E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Swallow

BW	0.020	kg
FIR-dry	0.004	kg/d-dw
FIR-wet	0.014	kg/d-ww
WIR	0.004	L/d
SIR-dry	0.0001	kg/d-dw
SIR-wet	0.0003	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	50%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	7.49E-05	7.45E-02	7.46E-02	0.23	3.29E-01
4a_Total HPAHs	Not available	3.19E-04	1.09E-01	1.09E-01	0.14	7.79E-01
4a_Total LPAHs	Not available	2.12E-04	6.62E-02	6.64E-02	7.70	8.62E-03
4a_Total PCBs	Not available	1.09E-03	7.14E-01	7.15E-01	0.29	**2.47E+00**
4b_Antimony	Not available	1.87E-02	4.68E-01	4.87E-01	Not available	-
4b_Arsenic	Not available	7.26E-02	1.25E+00	1.33E+00	2.24	5.92E-01
4b_Barium	Not available	5.26E+00	5.26E+02	5.31E+02	208.30	**2.55E+00**
4b_Beryllium	Not available	1.20E-02	6.02E-02	7.22E-02	Not available	-
4b_Cadmium	Not available	5.66E-02	1.13E+01	1.14E+01	1.47	**7.74E+00**
4b_Chromium +3	Not available	4.50E-01	5.27E+00	5.72E+00	2.66	**2.15E+00**
4b_Cobalt	Not available	8.20E-02	2.05E+00	2.13E+00	7.61	2.80E-01
4b_Copper	Not available	4.34E-01	5.70E+01	5.75E+01	4.05	**1.42E+01**
4b_Lead	Not available	3.75E+00	5.69E+01	6.06E+01	1.63	**3.72E+01**
4b_Manganese	Not available	1.43E+01	5.81E+02	5.95E+02	179.00	**3.33E+00**
4b_Mercury	Not available	8.02E-03	5.76E-01	5.84E-01	0.0180	**3.24E+01**
4b_Methylmercury	Not available	8.02E-03	5.76E-01	5.84E-01	0.0180	**3.24E+01**
4b_Nickel	Not available	2.14E-01	1.24E+01	1.26E+01	6.71	**1.88E+00**
4b_Selenium	Not available	3.52E-02	5.75E+00	5.78E+00	0.29	**1.99E+01**
4b_Silver	Not available	7.58E-03	3.41E-02	4.17E-02	2.02	2.06E-02
4b_Vanadium	Not available	4.99E-01	4.12E+00	4.62E+00	0.34	**1.34E+01**
4b_Zinc	Not available	5.48E+00	1.03E+03	1.04E+03	66.10	**1.57E+01**
4b_TCDD (bird)	Not available	8.91E-08	7.60E-06	7.69E-06	1.40E-05	5.49E-01
4b_TCDD (mammal)	Not available	1.21E-08	1.03E-06	1.05E-06	1.40E-05	7.48E-02
4b_Total DDTs	Not available	1.52E-03	1.52E+00	1.52E+00	0.23	**6.68E+00**
4b_Total HPAHs	Not available	5.88E-04	2.01E-01	2.01E-01	0.14	**1.44E+00**
4b_Total LPAHs	Not available	1.47E-04	4.60E-02	4.61E-02	7.70	5.99E-03
4b_Total PCBs	Not available	2.45E-04	1.61E-01	1.61E-01	0.29	5.56E-01
5_Antimony	Not available	4.14E-02	1.04E+00	1.08E+00	Not available	-
5_Arsenic	Not available	9.80E-02	1.69E+00	1.79E+00	2.24	7.99E-01
5_Barium	Not available	4.81E+00	4.81E+02	4.86E+02	208.30	**2.33E+00**
5_Beryllium	Not available	1.29E-02	6.46E-02	7.75E-02	Not available	-
5_Cadmium	Not available	7.22E-02	1.44E+01	1.45E+01	1.47	**9.87E+00**
5_Chromium +3	Not available	4.50E-01	5.27E+00	5.72E+00	2.66	**2.15E+00**
5_Cobalt	Not available	8.65E-02	2.16E+00	2.25E+00	7.61	2.95E-01
5_Copper	Not available	4.00E-01	5.25E+01	5.29E+01	4.05	**1.31E+01**
5_Lead	Not available	2.60E+00	3.94E+01	4.20E+01	1.63	**2.58E+01**
5_Manganese	Not available	1.68E+01	6.86E+02	7.03E+02	179.00	**3.93E+00**
5_Mercury	Not available	5.57E-03	4.00E-01	4.05E-01	0.0180	**2.25E+01**
5_Methylmercury	Not available	5.57E-03	4.00E-01	4.05E-01	0.0180	**2.25E+01**
5_Nickel	Not available	2.23E-01	1.29E+01	1.32E+01	6.71	**1.96E+00**
5_Selenium	Not available	3.97E-02	6.47E+00	6.51E+00	0.29	**2.25E+01**
5_Silver	Not available	6.91E-03	3.11E-02	3.80E-02	2.02	1.88E-02
5_Vanadium	Not available	5.57E-01	4.60E+00	5.15E+00	0.34	**1.50E+01**
5_Zinc	Not available	5.57E+00	1.05E+03	1.05E+03	66.10	**1.59E+01**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Swallow

BW	0.020	kg
FIR-dry	0.004	kg/d-dw
FIR-wet	0.014	kg/d-ww
WIR	0.004	L/d
SIR-dry	0.0001	kg/d-dw
SIR-wet	0.0003	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	50%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	2.47E-07	2.11E-05	2.14E-05	1.40E-05	**1.53E+00**
5_TCDD (mammal)	Not available	3.32E-08	2.83E-06	2.86E-06	1.40E-05	2.04E-01
5_Total DDTs	Not available	2.29E-05	2.28E-02	2.28E-02	0.23	1.01E-01
5_Total HPAHs	Not available	4.19E-04	1.43E-01	1.43E-01	0.14	**1.02E+00**
5_Total LPAHs	Not available	1.74E-04	5.44E-02	5.45E-02	7.70	7.08E-03
5_Total PCBs	Not available	3.57E-05	2.34E-02	2.34E-02	0.29	8.09E-02
6_Antimony	Not available	4.26E-02	1.06E+00	1.11E+00	Not available	-
6_Arsenic	Not available	6.91E-02	1.19E+00	1.26E+00	2.24	5.63E-01
6_Barium	Not available	4.59E+00	4.59E+02	4.64E+02	208.30	**2.23E+00**
6_Beryllium	Not available	1.20E-02	6.02E-02	7.22E-02	Not available	-
6_Cadmium	Not available	5.53E-02	1.11E+01	1.11E+01	1.47	**7.56E+00**
6_Chromium +3	Not available	3.52E-01	4.12E+00	4.47E+00	2.66	**1.68E+00**
6_Cobalt	Not available	8.65E-02	2.16E+00	2.25E+00	7.61	2.95E-01
6_Copper	Not available	3.99E-01	5.23E+01	5.27E+01	4.05	**1.30E+01**
6_Lead	Not available	2.06E+00	3.12E+01	3.33E+01	1.63	**2.04E+01**
6_Manganese	Not available	1.02E+01	4.16E+02	4.26E+02	179.00	**2.38E+00**
6_Mercury	Not available	8.02E-03	5.76E-01	5.84E-01	0.0180	**3.24E+01**
6_Methylmercury	Not available	8.02E-03	5.76E-01	5.84E-01	0.0180	**3.24E+01**
6_Nickel	Not available	1.75E-01	1.01E+01	1.03E+01	6.71	**1.54E+00**
6_Selenium	Not available	3.83E-02	6.26E+00	6.29E+00	0.29	**2.17E+01**
6_Silver	Not available	9.36E-03	4.21E-02	5.15E-02	2.02	2.55E-02
6_Vanadium	Not available	4.17E-01	3.44E+00	3.85E+00	0.34	**1.12E+01**
6_Zinc	Not available	5.39E+00	1.01E+03	1.02E+03	66.10	**1.54E+01**
6_TCDD (bird)	Not available	1.36E-07	1.16E-05	1.17E-05	1.40E-05	8.36E-01
6_TCDD (mammal)	Not available	2.52E-08	2.15E-06	2.17E-06	1.40E-05	1.55E-01
6_Total DDTs	Not available	1.39E-04	1.39E-01	1.39E-01	0.23	6.12E-01
6_Total HPAHs	Not available	3.24E-04	1.10E-01	1.11E-01	0.14	7.91E-01
6_Total LPAHs	Not available	1.96E-04	6.13E-02	6.15E-02	7.70	7.99E-03
6_Total PCBs	Not available	4.23E-05	2.78E-02	2.78E-02	0.29	9.60E-02

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mink

BW	0.852	kg
FIR-dry	0.043	kg/d-dw
FIR-wet	0.143	kg/d-ww
WIR	0.086	L/d
SIR-dry	0.0021	kg/d-dw
SIR-wet	0.0072	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	73%	Birds	4%
Amphibians	2%	Mammals	4%
Mussels	2%	Reptiles	2%
Aq. Inverts	5%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	9%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	4.34E-01	6.84E-01	1.12E+00	0.06	**1.90E+01**
1_Arsenic	8.65E-05	1.86E-01	2.23E-01	4.09E-01	1.04	3.93E-01
1_Barium	Not available	6.09E+00	3.56E+01	4.17E+01	51.80	8.05E-01
1_Beryllium	Not available	4.49E-03	1.64E-03	6.13E-03	0.53	1.15E-02
1_Cadmium	2.41E-05	4.49E-02	5.47E-01	5.92E-01	0.77	7.69E-01
1_Chromium +3	8.35E-05	4.32E-01	6.84E-01	1.12E+00	2.40	4.65E-01
1_Cobalt	Not available	2.14E-01	3.47E-01	5.61E-01	7.33	7.65E-02
1_Copper	4.61E-04	8.24E+00	6.22E+01	7.04E+01	5.60	**1.26E+01**
1_Lead	1.97E-04	6.89E+00	6.77E+00	1.37E+01	4.70	**2.91E+00**
1_Manganese	Not available	1.23E+01	3.16E+01	4.39E+01	51.50	8.53E-01
1_Mercury	2.01E-07	1.70E-03	3.59E-02	3.76E-02	0.002	**2.21E+01**
1_Methylmercury	Not available	1.70E-03	3.59E-02	3.76E-02	0.002	**2.21E+01**
1_Nickel	9.56E-05	4.84E-02	2.74E-01	3.22E-01	1.70	1.90E-01
1_Selenium	Not available	4.87E-02	5.73E-01	6.21E-01	0.14	**4.35E+00**
1_Silver	5.03E-06	3.14E-02	1.27E-02	4.41E-02	6.02	7.33E-03
1_Vanadium	Not available	2.52E-01	1.60E-01	4.12E-01	4.16	9.91E-02
1_Zinc	4.53E-03	6.64E+01	7.16E+02	7.82E+02	75.40	**1.04E+01**
1_TCDD (bird)	Not available	2.57E-09	1.67E-06	1.67E-06	1.00E-06	**1.67E+00**
1_TCDD (mammal)	Not available	8.79E-10	1.10E-06	1.10E-06	1.00E-06	**1.10E+00**
1_Total DDTs	Not available	8.84E-06	4.92E-04	5.01E-04	0.15	3.41E-03
1_Total HPAHs	Not available	1.55E-03	2.97E-02	3.12E-02	0.62	5.07E-02
1_Total LPAHs	Not available	2.23E-04	3.91E-03	4.14E-03	65.60	6.30E-05
1_Total PCBs	Not available	9.98E-05	2.05E-02	2.06E-02	0.01	**2.31E+00**
2_Antimony	Not available	1.35E-01	1.96E-01	3.31E-01	0.06	**5.60E+00**
2_Arsenic	Not available	1.33E-01	2.61E-01	3.93E-01	1.04	3.78E-01
2_Barium	Not available	5.32E+00	3.07E+01	3.60E+01	51.80	6.95E-01
2_Beryllium	Not available	5.99E-03	2.08E-03	8.07E-03	0.53	1.52E-02
2_Cadmium	Not available	1.72E-02	2.58E-01	2.76E-01	0.77	3.58E-01
2_Chromium +3	Not available	3.74E-01	4.40E-01	8.14E-01	2.40	3.39E-01
2_Cobalt	Not available	1.67E-01	2.42E-01	4.09E-01	7.33	5.58E-02
2_Copper	Not available	7.56E+00	5.58E+01	6.34E+01	5.60	**1.13E+01**
2_Lead	Not available	3.97E+00	3.96E+00	7.93E+00	4.70	**1.69E+00**
2_Manganese	Not available	1.21E+01	2.87E+01	4.08E+01	51.50	7.92E-01
2_Mercury	Not available	2.75E-03	4.17E-02	4.45E-02	0.0017	**2.61E+01**
2_Methylmercury	Not available	2.75E-03	4.17E-02	4.45E-02	0.0017	**2.61E+01**
2_Nickel	Not available	5.74E-02	2.81E-01	3.38E-01	1.70	1.99E-01
2_Selenium	Not available	5.79E-02	6.58E-01	7.16E-01	0.14	**5.01E+00**
2_Silver	Not available	1.92E-02	9.76E-03	2.90E-02	6.02	4.81E-03
2_Vanadium	Not available	2.01E-01	1.17E-01	3.17E-01	4.16	7.63E-02
2_Zinc	Not available	6.21E+01	6.59E+02	7.21E+02	75.40	**9.56E+00**
2_TCDD (bird)	Not available	3.98E-08	1.92E-06	1.96E-06	1.00E-06	**1.96E+00**
2_TCDD (mammal)	Not available	5.68E-09	9.77E-07	9.83E-07	1.00E-06	9.83E-01
2_Total DDTs	Not available	8.09E-06	4.51E-04	4.59E-04	0.15	3.12E-03
2_Total HPAHs	Not available	1.55E-04	2.96E-03	3.11E-03	0.62	5.06E-03

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mink

BW	0.852	kg					
FIR-dry	0.043	kg/d-dw	Diet (%)				
FIR-wet	0.143	kg/d-ww	Fish	73%	Birds	4%	
WIR	0.086	L/d	Amphibians	2%	Mammals	4%	
SIR-dry	0.0021	kg/d-dw	Mussels	2%	Reptiles	2%	
SIR-wet	0.0072	kg/d-ww	Aq. Inverts	5%	Ter. Inverts	0%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	9%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	6.74E-05	1.18E-03	1.25E-03	65.60	1.90E-05
2_Total PCBs	Not available	1.37E-04	8.99E-02	9.01E-02	0.01	**1.01E+01**
3_Antimony	Not available	1.06E-01	1.56E-01	2.62E-01	0.06	**4.44E+00**
3_Arsenic	Not available	6.54E-02	1.82E-01	2.47E-01	1.04	2.38E-01
3_Barium	Not available	4.02E+00	2.36E+01	2.76E+01	51.80	5.33E-01
3_Beryllium	Not available	7.49E-03	2.46E-03	9.95E-03	0.53	1.87E-02
3_Cadmium	Not available	1.82E-02	2.66E-01	2.84E-01	0.77	3.69E-01
3_Chromium +3	Not available	2.72E-01	3.24E-01	5.96E-01	2.40	2.48E-01
3_Cobalt	Not available	1.04E-01	1.54E-01	2.58E-01	7.33	3.52E-02
3_Copper	Not available	5.59E+00	4.15E+01	4.70E+01	5.60	**8.40E+00**
3_Lead	Not available	2.87E+00	2.99E+00	5.86E+00	4.70	**1.25E+00**
3_Manganese	Not available	1.17E+01	2.78E+01	3.95E+01	51.50	7.68E-01
3_Mercury	Not available	2.99E-03	5.85E-02	6.14E-02	0.0017	**3.61E+01**
3_Methylmercury	Not available	2.99E-03	5.85E-02	6.14E-02	0.0017	**3.61E+01**
3_Nickel	Not available	1.32E-01	5.08E-01	6.40E-01	1.70	3.76E-01
3_Selenium	Not available	5.84E-02	6.77E-01	7.36E-01	0.14	**5.14E+00**
3_Silver	Not available	1.25E-02	7.70E-03	2.02E-02	6.02	3.35E-03
3_Vanadium	Not available	2.75E-01	1.57E-01	4.31E-01	4.16	1.04E-01
3_Zinc	Not available	6.19E+01	6.56E+02	7.18E+02	75.40	**9.52E+00**
3_TCDD (bird)	Not available	6.31E-08	1.34E-06	1.40E-06	1.00E-06	**1.40E+00**
3_TCDD (mammal)	Not available	8.61E-09	5.95E-07	6.04E-07	1.00E-06	6.04E-01
3_Total DDTs	Not available	2.12E-05	1.18E-03	1.20E-03	0.15	8.19E-03
3_Total HPAHs	Not available	2.02E-04	3.86E-03	4.06E-03	0.62	6.61E-03
3_Total LPAHs	Not available	3.07E-04	5.38E-03	5.68E-03	65.60	8.66E-05
3_Total PCBs	Not available	2.25E-04	2.55E-02	2.57E-02	0.01	**2.88E+00**
4a_Antimony	Not available	1.78E-02	3.23E-02	5.01E-02	0.06	8.49E-01
4a_Arsenic	Not available	5.04E-02	2.15E-01	2.66E-01	1.04	2.55E-01
4a_Barium	Not available	3.09E+00	1.85E+01	2.16E+01	51.80	4.16E-01
4a_Beryllium	Not available	7.49E-03	2.46E-03	9.95E-03	0.53	1.87E-02
4a_Cadmium	Not available	3.54E-02	4.44E-01	4.80E-01	0.77	6.23E-01
4a_Chromium +3	Not available	1.92E-01	4.09E-01	6.01E-01	2.40	2.50E-01
4a_Cobalt	Not available	4.99E-02	8.48E-02	1.35E-01	7.33	1.84E-02
4a_Copper	Not available	3.79E-01	3.04E+00	3.42E+00	5.60	6.11E-01
4a_Lead	Not available	2.10E+00	2.09E+00	4.19E+00	4.70	8.91E-01
4a_Manganese	Not available	2.87E+00	7.84E+00	1.07E+01	51.50	2.08E-01
4a_Mercury	Not available	5.99E-03	6.76E-02	7.36E-02	0.0017	**4.33E+01**
4a_Methylmercury	Not available	5.99E-03	6.76E-02	7.36E-02	0.0017	**4.33E+01**
4a_Nickel	Not available	9.48E-02	4.28E-01	5.23E-01	1.70	3.08E-01
4a_Selenium	Not available	1.95E-02	2.96E-01	3.15E-01	0.14	**2.21E+00**
4a_Silver	Not available	7.24E-03	6.38E-03	1.36E-02	6.02	2.26E-03
4a_Vanadium	Not available	2.57E-01	1.59E-01	4.16E-01	4.16	1.00E-01
4a_Zinc	Not available	4.27E+00	4.85E+01	5.28E+01	75.40	7.00E-01
4a_TCDD (bird)	Not available	7.49E-08	1.73E-06	1.81E-06	1.00E-06	**1.81E+00**
4a_TCDD (mammal)	Not available	1.14E-08	1.01E-06	1.02E-06	1.00E-06	**1.02E+00**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mink

BW	0.852	kg					
FIR-dry	0.043	kg/d-dw	Diet (%)				
FIR-wet	0.143	kg/d-ww	Fish	73%	Birds	4%
WIR	0.086	L/d	Amphibians	2%	Mammals	4%
SIR-dry	0.0021	kg/d-dw	Mussels	2%	Reptiles	2%
SIR-wet	0.0072	kg/d-ww	Aq. Inverts	5%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	9%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	4.19E-05	2.34E-03	2.38E-03	0.15	1.62E-02
4a_Total HPAHs	Not available	1.78E-04	3.41E-03	3.59E-03	0.62	5.83E-03
4a_Total LPAHs	Not available	1.19E-04	2.08E-03	2.19E-03	65.60	3.35E-05
4a_Total PCBs	Not available	6.09E-04	5.49E-02	5.55E-02	0.01	**6.23E+00**
4b_Antimony	Not available	1.05E-02	2.20E-02	3.24E-02	0.06	5.50E-01
4b_Arsenic	Not available	4.07E-02	2.06E-01	2.47E-01	1.04	2.37E-01
4b_Barium	Not available	2.95E+00	1.76E+01	2.06E+01	51.80	3.97E-01
4b_Beryllium	Not available	6.74E-03	2.25E-03	8.99E-03	0.53	1.69E-02
4b_Cadmium	Not available	3.17E-02	4.02E-01	4.34E-01	0.77	5.64E-01
4b_Chromium +3	Not available	2.52E-01	4.49E-01	7.01E-01	2.40	2.92E-01
4b_Cobalt	Not available	4.59E-02	7.92E-02	1.25E-01	7.33	1.71E-02
4b_Copper	Not available	2.43E-01	2.04E+00	2.29E+00	5.60	4.08E-01
4b_Lead	Not available	2.10E+00	2.09E+00	4.19E+00	4.70	8.91E-01
4b_Manganese	Not available	7.99E+00	1.95E+01	2.75E+01	51.50	5.34E-01
4b_Mercury	Not available	4.49E-03	6.16E-02	6.61E-02	0.0017	**3.89E+01**
4b_Methylmercury	Not available	4.49E-03	6.16E-02	6.61E-02	0.0017	**3.89E+01**
4b_Nickel	Not available	1.20E-01	5.09E-01	6.29E-01	1.70	3.70E-01
4b_Selenium	Not available	1.97E-02	2.98E-01	3.18E-01	0.14	**2.22E+00**
4b_Silver	Not available	4.24E-03	5.62E-03	9.87E-03	6.02	1.64E-03
4b_Vanadium	Not available	2.80E-01	1.69E-01	4.49E-01	4.16	1.08E-01
4b_Zinc	Not available	3.07E+00	3.59E+01	3.89E+01	75.40	5.16E-01
4b_TCDD (bird)	Not available	4.99E-08	1.61E-06	1.66E-06	1.00E-06	**1.66E+00**
4b_TCDD (mammal)	Not available	6.80E-09	9.89E-07	9.96E-07	1.00E-06	9.96E-01
4b_Total DDTs	Not available	8.53E-04	4.75E-02	4.84E-02	0.15	3.29E-01
4b_Total HPAHs	Not available	3.29E-04	6.29E-03	6.62E-03	0.62	1.08E-02
4b_Total LPAHs	Not available	8.24E-05	1.44E-03	1.52E-03	65.60	2.32E-05
4b_Total PCBs	Not available	1.37E-04	3.75E-02	3.77E-02	0.01	**4.23E+00**
5_Antimony	Not available	2.32E-02	3.98E-02	6.30E-02	0.06	**1.07E+00**
5_Arsenic	Not available	5.49E-02	2.31E-01	2.86E-01	1.04	2.75E-01
5_Barium	Not available	2.70E+00	1.66E+01	1.93E+01	51.80	3.72E-01
5_Beryllium	Not available	7.24E-03	2.39E-03	9.63E-03	0.53	1.81E-02
5_Cadmium	Not available	4.04E-02	4.93E-01	5.33E-01	0.77	6.93E-01
5_Chromium +3	Not available	2.52E-01	4.25E-01	6.77E-01	2.40	2.82E-01
5_Cobalt	Not available	4.84E-02	8.02E-02	1.29E-01	7.33	1.75E-02
5_Copper	Not available	2.24E-01	1.87E+00	2.10E+00	5.60	3.74E-01
5_Lead	Not available	1.46E+00	1.34E+00	2.79E+00	4.70	5.94E-01
5_Manganese	Not available	9.43E+00	2.27E+01	3.21E+01	51.50	6.24E-01
5_Mercury	Not available	3.12E-03	5.52E-02	5.83E-02	0.0017	**3.43E+01**
5_Methylmercury	Not available	3.12E-03	5.52E-02	5.83E-02	0.0017	**3.43E+01**
5_Nickel	Not available	1.25E-01	4.97E-01	6.22E-01	1.70	3.66E-01
5_Selenium	Not available	2.22E-02	2.99E-01	3.21E-01	0.14	**2.24E+00**
5_Silver	Not available	3.87E-03	5.53E-03	9.40E-03	6.02	1.56E-03
5_Vanadium	Not available	3.12E-01	1.75E-01	4.87E-01	4.16	1.17E-01
5_Zinc	Not available	3.12E+00	3.64E+01	3.95E+01	75.40	5.23E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Mink

BW	0.852	kg
FIR-dry	0.043	kg/d-dw
FIR-wet	0.143	kg/d-ww
WIR	0.086	L/d
SIR-dry	0.0021	kg/d-dw
SIR-wet	0.0072	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	73%	Birds	4%
Amphibians	2%	Mammals	4%
Mussels	2%	Reptiles	2%
Aq. Inverts	5%	Ter. Inverts	0%
Aq. Plants	0%	Ter. Plants	9%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	1.39E-07	2.34E-06	2.48E-06	1.00E-06	**2.48E+00**
5_TCDD (mammal)	Not available	1.86E-08	1.08E-06	1.10E-06	1.00E-06	**1.10E+00**
5_Total DDTs	Not available	1.28E-05	7.15E-04	7.28E-04	0.15	4.95E-03
5_Total HPAHs	Not available	2.35E-04	4.48E-03	4.72E-03	0.62	7.67E-03
5_Total LPAHs	Not available	9.73E-05	1.70E-03	1.80E-03	65.60	2.75E-05
5_Total PCBs	Not available	2.00E-05	3.09E-02	3.10E-02	0.01	**3.48E+00**
6_Antimony	Not available	2.38E-02	4.12E-02	6.50E-02	0.06	**1.10E+00**
6_Arsenic	Not available	3.87E-02	2.00E-01	2.39E-01	1.04	2.30E-01
6_Barium	Not available	2.57E+00	1.57E+01	1.82E+01	51.80	3.52E-01
6_Beryllium	Not available	6.74E-03	2.27E-03	9.01E-03	0.53	1.69E-02
6_Cadmium	Not available	3.09E-02	3.87E-01	4.18E-01	0.77	5.42E-01
6_Chromium +3	Not available	1.97E-01	3.71E-01	5.68E-01	2.40	2.37E-01
6_Cobalt	Not available	4.84E-02	7.84E-02	1.27E-01	7.33	1.73E-02
6_Copper	Not available	2.23E-01	1.91E+00	2.14E+00	5.60	3.82E-01
6_Lead	Not available	1.15E+00	1.10E+00	2.25E+00	4.70	4.80E-01
6_Manganese	Not available	5.72E+00	1.42E+01	1.99E+01	51.50	3.86E-01
6_Mercury	Not available	4.49E-03	6.13E-02	6.58E-02	0.0017	**3.87E+01**
6_Methylmercury	Not available	4.49E-03	6.13E-02	6.58E-02	0.0017	**3.87E+01**
6_Nickel	Not available	9.78E-02	4.20E-01	5.18E-01	1.70	3.05E-01
6_Selenium	Not available	2.15E-02	2.84E-01	3.05E-01	0.14	**2.13E+00**
6_Silver	Not available	5.24E-03	5.88E-03	1.11E-02	6.02	1.85E-03
6_Vanadium	Not available	2.33E-01	1.52E-01	3.85E-01	4.16	9.25E-02
6_Zinc	Not available	3.02E+00	3.59E+01	3.90E+01	75.40	5.17E-01
6_TCDD (bird)	Not available	7.59E-08	2.71E-06	2.79E-06	1.00E-06	**2.79E+00**
6_TCDD (mammal)	Not available	1.41E-08	1.56E-06	1.57E-06	1.00E-06	**1.57E+00**
6_Total DDTs	Not available	7.81E-05	4.35E-03	4.43E-03	0.15	3.01E-02
6_Total HPAHs	Not available	1.81E-04	3.46E-03	3.64E-03	0.62	5.92E-03
6_Total LPAHs	Not available	1.10E-04	1.92E-03	2.03E-03	65.60	3.10E-05
6_Total PCBs	Not available	2.37E-05	2.16E-02	2.16E-02	0.01	**2.42E+00**

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = River Otter

BW	8.550	kg					
FIR-dry	0.291	kg/d-dw	Diet (%)				
FIR-wet	1.013	kg/d-ww	Fish	80%	Birds	3%	
WIR	0.683	L/d	Amphibians	0%	Mammals	3%	
SIR-dry	0.0146	kg/d-dw	Mussels	2%	Reptiles	0%	
SIR-wet	0.0506	kg/d-ww	Aq. Inverts	8%	Ter. Inverts	5%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	2.96E-01	6.49E-01	9.46E-01	0.06	**1.60E+01**
1_Arsenic	6.87E-05	1.27E-01	2.07E-01	3.34E-01	1.04	3.21E-01
1_Barium	Not available	4.15E+00	3.44E+01	3.85E+01	51.80	7.43E-01
1_Beryllium	Not available	3.06E-03	1.51E-03	4.58E-03	0.53	8.60E-03
1_Cadmium	1.92E-05	3.06E-02	5.23E-01	5.54E-01	0.77	7.19E-01
1_Chromium +3	6.63E-05	2.94E-01	5.75E-01	8.70E-01	2.40	3.62E-01
1_Cobalt	Not available	1.46E-01	3.27E-01	4.73E-01	7.33	6.45E-02
1_Copper	3.66E-04	5.62E+00	6.02E+01	6.58E+01	5.60	**1.18E+01**
1_Lead	1.57E-04	4.70E+00	6.39E+00	1.11E+01	4.70	**2.36E+00**
1_Manganese	Not available	8.37E+00	3.00E+01	3.84E+01	51.50	7.45E-01
1_Mercury	1.60E-07	1.16E-03	2.84E-02	2.96E-02	0.002	**1.74E+01**
1_Methylmercury	Not available	1.16E-03	2.84E-02	2.96E-02	0.002	**1.74E+01**
1_Nickel	7.59E-05	3.30E-02	2.40E-01	2.73E-01	1.70	1.61E-01
1_Selenium	Not available	3.32E-02	5.29E-01	5.62E-01	0.14	**3.93E+00**
1_Silver	3.99E-06	2.14E-02	1.13E-02	3.27E-02	6.02	5.43E-03
1_Vanadium	Not available	1.72E-01	1.46E-01	3.18E-01	4.16	7.65E-02
1_Zinc	3.59E-03	4.53E+01	6.94E+02	7.39E+02	75.40	**9.80E+00**
1_TCDD (bird)	Not available	1.75E-09	1.25E-06	1.25E-06	1.00E-06	**1.25E+00**
1_TCDD (mammal)	Not available	5.99E-10	8.20E-07	8.21E-07	1.00E-06	8.21E-01
1_Total DDTs	Not available	6.03E-06	4.80E-04	4.86E-04	0.15	3.30E-03
1_Total HPAHs	Not available	1.06E-03	2.89E-02	3.00E-02	0.62	4.87E-02
1_Total LPAHs	Not available	1.52E-04	3.81E-03	3.96E-03	65.60	6.04E-05
1_Total PCBs	Not available	6.81E-05	1.61E-02	1.62E-02	0.01	**1.82E+00**
2_Antimony	Not available	9.17E-02	1.89E-01	2.81E-01	0.06	**4.76E+00**
2_Arsenic	Not available	9.05E-02	2.24E-01	3.14E-01	1.04	3.02E-01
2_Barium	Not available	3.63E+00	2.97E+01	3.33E+01	51.80	6.43E-01
2_Beryllium	Not available	4.08E-03	1.93E-03	6.02E-03	0.53	1.13E-02
2_Cadmium	Not available	1.17E-02	2.37E-01	2.49E-01	0.77	3.23E-01
2_Chromium +3	Not available	2.55E-01	3.84E-01	6.40E-01	2.40	2.67E-01
2_Cobalt	Not available	1.14E-01	2.34E-01	3.48E-01	7.33	4.75E-02
2_Copper	Not available	5.16E+00	5.43E+01	5.95E+01	5.60	**1.06E+01**
2_Lead	Not available	2.71E+00	3.73E+00	6.43E+00	4.70	**1.37E+00**
2_Manganese	Not available	8.27E+00	2.77E+01	3.60E+01	51.50	6.98E-01
2_Mercury	Not available	1.87E-03	3.37E-02	3.55E-02	0.0017	**2.09E+01**
2_Methylmercury	Not available	1.87E-03	3.37E-02	3.55E-02	0.0017	**2.09E+01**
2_Nickel	Not available	3.91E-02	2.52E-01	2.91E-01	1.70	1.71E-01
2_Selenium	Not available	3.95E-02	6.12E-01	6.51E-01	0.14	**4.55E+00**
2_Silver	Not available	1.31E-02	8.39E-03	2.15E-02	6.02	3.57E-03
2_Vanadium	Not available	1.37E-01	1.08E-01	2.45E-01	4.16	5.89E-02
2_Zinc	Not available	4.24E+01	6.41E+02	6.83E+02	75.40	**9.06E+00**
2_TCDD (bird)	Not available	2.71E-08	1.48E-06	1.51E-06	1.00E-06	**1.51E+00**
2_TCDD (mammal)	Not available	3.88E-09	7.37E-07	7.40E-07	1.00E-06	7.40E-01
2_Total DDTs	Not available	5.51E-06	4.39E-04	4.44E-04	0.15	3.02E-03
2_Total HPAHs	Not available	1.06E-04	2.88E-03	2.99E-03	0.62	4.85E-03

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = River Otter

BW	8.550	kg				
FIR-dry	0.291	kg/d-dw	Diet (%)			
FIR-wet	1.013	kg/d-ww	Fish	80%	Birds	3%
WIR	0.683	L/d	Amphibians	0%	Mammals	3%
SIR-dry	0.0146	kg/d-dw	Mussels	2%	Reptiles	0%
SIR-wet	0.0506	kg/d-ww	Aq. Inverts	8%	Ter. Inverts	5%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	4.60E-05	1.15E-03	1.20E-03	65.60	1.82E-05
2_Total PCBs	Not available	9.36E-05	6.84E-02	6.84E-02	0.01	**7.69E+00**
3_Antimony	Not available	7.23E-02	1.50E-01	2.22E-01	0.06	**3.77E+00**
3_Arsenic	Not available	4.46E-02	1.50E-01	1.95E-01	1.04	1.87E-01
3_Barium	Not available	2.74E+00	2.27E+01	2.55E+01	51.80	4.92E-01
3_Beryllium	Not available	5.11E-03	2.31E-03	7.42E-03	0.53	1.39E-02
3_Cadmium	Not available	1.24E-02	2.45E-01	2.58E-01	0.77	3.34E-01
3_Chromium +3	Not available	1.86E-01	2.83E-01	4.68E-01	2.40	1.95E-01
3_Cobalt	Not available	7.08E-02	1.48E-01	2.19E-01	7.33	2.99E-02
3_Copper	Not available	3.81E+00	4.03E+01	4.41E+01	5.60	**7.88E+00**
3_Lead	Not available	1.96E+00	2.79E+00	4.74E+00	4.70	**1.01E+00**
3_Manganese	Not available	7.98E+00	2.69E+01	3.48E+01	51.50	6.77E-01
3_Mercury	Not available	2.04E-03	4.64E-02	4.85E-02	0.0017	**2.85E+01**
3_Methylmercury	Not available	2.04E-03	4.64E-02	4.85E-02	0.0017	**2.85E+01**
3_Nickel	Not available	8.99E-02	4.77E-01	5.67E-01	1.70	3.33E-01
3_Selenium	Not available	3.98E-02	6.27E-01	6.67E-01	0.14	**4.66E+00**
3_Silver	Not available	8.51E-03	6.47E-03	1.50E-02	6.02	2.49E-03
3_Vanadium	Not available	1.87E-01	1.46E-01	3.33E-01	4.16	8.01E-02
3_Zinc	Not available	4.22E+01	6.38E+02	6.80E+02	75.40	**9.02E+00**
3_TCDD (bird)	Not available	4.30E-08	1.07E-06	1.11E-06	1.00E-06	**1.11E+00**
3_TCDD (mammal)	Not available	5.87E-09	4.54E-07	4.60E-07	1.00E-06	4.60E-01
3_Total DDTs	Not available	1.45E-05	1.15E-03	1.17E-03	0.15	7.93E-03
3_Total HPAHs	Not available	1.38E-04	3.76E-03	3.90E-03	0.62	6.34E-03
3_Total LPAHs	Not available	2.09E-04	5.24E-03	5.45E-03	65.60	8.30E-05
3_Total PCBs	Not available	1.53E-04	2.09E-02	2.10E-02	0.01	**2.36E+00**
4a_Antimony	Not available	1.22E-02	2.98E-02	4.20E-02	0.06	7.11E-01
4a_Arsenic	Not available	3.44E-02	1.72E-01	2.06E-01	1.04	1.98E-01
4a_Barium	Not available	2.11E+00	1.77E+01	1.98E+01	51.80	3.83E-01
4a_Beryllium	Not available	5.11E-03	2.31E-03	7.42E-03	0.53	1.39E-02
4a_Cadmium	Not available	2.42E-02	4.22E-01	4.46E-01	0.77	5.80E-01
4a_Chromium +3	Not available	1.31E-01	3.34E-01	4.65E-01	2.40	1.94E-01
4a_Cobalt	Not available	3.40E-02	7.92E-02	1.13E-01	7.33	1.55E-02
4a_Copper	Not available	2.59E-01	2.91E+00	3.16E+00	5.60	5.65E-01
4a_Lead	Not available	1.43E+00	1.97E+00	3.40E+00	4.70	7.23E-01
4a_Manganese	Not available	1.96E+00	7.35E+00	9.30E+00	51.50	1.81E-01
4a_Mercury	Not available	4.08E-03	5.60E-02	6.01E-02	0.0017	**3.53E+01**
4a_Methylmercury	Not available	4.08E-03	5.60E-02	6.01E-02	0.0017	**3.53E+01**
4a_Nickel	Not available	6.47E-02	3.90E-01	4.54E-01	1.70	2.67E-01
4a_Selenium	Not available	1.33E-02	2.62E-01	2.75E-01	0.14	**1.92E+00**
4a_Silver	Not available	4.94E-03	5.18E-03	1.01E-02	6.02	1.68E-03
4a_Vanadium	Not available	1.75E-01	1.46E-01	3.21E-01	4.16	7.72E-02
4a_Zinc	Not available	2.91E+00	4.64E+01	4.94E+01	75.40	6.55E-01
4a_TCDD (bird)	Not available	5.11E-08	1.38E-06	1.43E-06	1.00E-06	**1.43E+00**
4a_TCDD (mammal)	Not available	7.79E-09	7.68E-07	7.76E-07	1.00E-06	7.76E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = River Otter

BW	8.550	kg					
FIR-dry	0.291	kg/d-dw	Diet (%)				
FIR-wet	1.013	kg/d-ww	Fish	80%	Birds	3%
WIR	0.683	L/d	Amphibians	0%	Mammals	3%
SIR-dry	0.0146	kg/d-dw	Mussels	2%	Reptiles	0%
SIR-wet	0.0506	kg/d-ww	Aq. Inverts	8%	Ter. Inverts	5%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	2.86E-05	2.28E-03	2.30E-03	0.15	1.57E-02
4a_Total HPAHs	Not available	1.22E-04	3.32E-03	3.44E-03	0.62	5.60E-03
4a_Total LPAHs	Not available	8.08E-05	2.02E-03	2.10E-03	65.60	3.21E-05
4a_Total PCBs	Not available	4.15E-04	4.61E-02	4.65E-02	0.01	**5.22E+00**
4b_Antimony	Not available	7.15E-03	1.97E-02	2.69E-02	0.06	4.56E-01
4b_Arsenic	Not available	2.77E-02	1.63E-01	1.90E-01	1.04	1.83E-01
4b_Barium	Not available	2.01E+00	1.69E+01	1.89E+01	51.80	3.65E-01
4b_Beryllium	Not available	4.60E-03	2.11E-03	6.71E-03	0.53	1.26E-02
4b_Cadmium	Not available	2.16E-02	3.81E-01	4.03E-01	0.77	5.23E-01
4b_Chromium +3	Not available	1.72E-01	3.73E-01	5.45E-01	2.40	2.27E-01
4b_Cobalt	Not available	3.13E-02	7.38E-02	1.05E-01	7.33	1.43E-02
4b_Copper	Not available	1.66E-01	1.93E+00	2.10E+00	5.60	3.75E-01
4b_Lead	Not available	1.43E+00	1.97E+00	3.40E+00	4.70	7.23E-01
4b_Manganese	Not available	5.45E+00	1.87E+01	2.42E+01	51.50	4.69E-01
4b_Mercury	Not available	3.06E-03	5.01E-02	5.32E-02	0.0017	**3.13E+01**
4b_Methylmercury	Not available	3.06E-03	5.01E-02	5.32E-02	0.0017	**3.13E+01**
4b_Nickel	Not available	8.17E-02	4.69E-01	5.50E-01	1.70	3.24E-01
4b_Selenium	Not available	1.34E-02	2.64E-01	2.77E-01	0.14	**1.94E+00**
4b_Silver	Not available	2.89E-03	4.45E-03	7.34E-03	6.02	1.22E-03
4b_Vanadium	Not available	1.91E-01	1.56E-01	3.46E-01	4.16	8.33E-02
4b_Zinc	Not available	2.09E+00	3.41E+01	3.62E+01	75.40	4.81E-01
4b_TCDD (bird)	Not available	3.40E-08	1.26E-06	1.29E-06	1.00E-06	**1.29E+00**
4b_TCDD (mammal)	Not available	4.63E-09	7.47E-07	7.51E-07	1.00E-06	7.51E-01
4b_Total DDTs	Not available	5.82E-04	4.63E-02	4.69E-02	0.15	3.19E-01
4b_Total HPAHs	Not available	2.25E-04	6.13E-03	6.36E-03	0.62	1.03E-02
4b_Total LPAHs	Not available	5.62E-05	1.41E-03	1.46E-03	65.60	2.23E-05
4b_Total PCBs	Not available	9.36E-05	2.92E-02	2.93E-02	0.01	**3.29E+00**
5_Antimony	Not available	1.58E-02	3.71E-02	5.29E-02	0.06	8.97E-01
5_Arsenic	Not available	3.74E-02	1.85E-01	2.22E-01	1.04	2.13E-01
5_Barium	Not available	1.84E+00	1.58E+01	1.77E+01	51.80	3.41E-01
5_Beryllium	Not available	4.94E-03	2.25E-03	7.18E-03	0.53	1.35E-02
5_Cadmium	Not available	2.76E-02	4.71E-01	4.99E-01	0.77	6.48E-01
5_Chromium +3	Not available	1.72E-01	3.55E-01	5.27E-01	2.40	2.20E-01
5_Cobalt	Not available	3.30E-02	7.53E-02	1.08E-01	7.33	1.48E-02
5_Copper	Not available	1.53E-01	1.77E+00	1.93E+00	5.60	3.44E-01
5_Lead	Not available	9.92E-01	1.28E+00	2.27E+00	4.70	4.84E-01
5_Manganese	Not available	6.43E+00	2.18E+01	2.83E+01	51.50	5.49E-01
5_Mercury	Not available	2.13E-03	4.41E-02	4.62E-02	0.0017	**2.72E+01**
5_Methylmercury	Not available	2.13E-03	4.41E-02	4.62E-02	0.0017	**2.72E+01**
5_Nickel	Not available	8.53E-02	4.64E-01	5.49E-01	1.70	3.23E-01
5_Selenium	Not available	1.51E-02	2.69E-01	2.84E-01	0.14	**1.99E+00**
5_Silver	Not available	2.64E-03	4.35E-03	6.99E-03	6.02	1.16E-03
5_Vanadium	Not available	2.13E-01	1.64E-01	3.77E-01	4.16	9.05E-02
5_Zinc	Not available	2.13E+00	3.46E+01	3.68E+01	75.40	4.87E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = River Otter

			Diet (%)			
BW	8.550	kg				
FIR-dry	0.291	kg/d-dw				
FIR-wet	1.013	kg/d-ww	Fish	80%	Birds	3%
WIR	0.683	L/d	Amphibians	0%	Mammals	3%
SIR-dry	0.0146	kg/d-dw	Mussels	2%	Reptiles	0%
SIR-wet	0.0506	kg/d-ww	Aq. Inverts	8%	Ter. Inverts	5%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	9.45E-08	1.90E-06	2.00E-06	1.00E-06	**2.00E+00**
5_TCDD (mammal)	Not available	1.27E-08	8.31E-07	8.43E-07	1.00E-06	8.43E-01
5_Total DDTs	Not available	8.75E-06	6.96E-04	7.05E-04	0.15	4.80E-03
5_Total HPAHs	Not available	1.60E-04	4.37E-03	4.53E-03	0.62	7.36E-03
5_Total LPAHs	Not available	6.64E-05	1.66E-03	1.73E-03	65.60	2.63E-05
5_Total PCBs	Not available	1.36E-05	2.33E-02	2.33E-02	0.01	**2.62E+00**
6_Antimony	Not available	1.63E-02	3.84E-02	5.46E-02	0.06	9.26E-01
6_Arsenic	Not available	2.64E-02	1.58E-01	1.85E-01	1.04	1.77E-01
6_Barium	Not available	1.75E+00	1.50E+01	1.67E+01	51.80	3.23E-01
6_Beryllium	Not available	4.60E-03	2.12E-03	6.72E-03	0.53	1.26E-02
6_Cadmium	Not available	2.11E-02	3.68E-01	3.89E-01	0.77	5.05E-01
6_Chromium +3	Not available	1.34E-01	3.06E-01	4.41E-01	2.40	1.84E-01
6_Cobalt	Not available	3.30E-02	7.39E-02	1.07E-01	7.33	1.46E-02
6_Copper	Not available	1.52E-01	1.80E+00	1.96E+00	5.60	3.49E-01
6_Lead	Not available	7.86E-01	1.05E+00	1.83E+00	4.70	3.90E-01
6_Manganese	Not available	3.90E+00	1.35E+01	1.74E+01	51.50	3.38E-01
6_Mercury	Not available	3.06E-03	4.99E-02	5.30E-02	0.0017	**3.11E+01**
6_Methylmercury	Not available	3.06E-03	4.99E-02	5.30E-02	0.0017	**3.11E+01**
6_Nickel	Not available	6.67E-02	3.86E-01	4.53E-01	1.70	2.66E-01
6_Selenium	Not available	1.46E-02	2.57E-01	2.71E-01	0.14	**1.90E+00**
6_Silver	Not available	3.57E-03	4.69E-03	8.26E-03	6.02	1.37E-03
6_Vanadium	Not available	1.59E-01	1.38E-01	2.97E-01	4.16	7.14E-02
6_Zinc	Not available	2.06E+00	3.41E+01	3.61E+01	75.40	4.79E-01
6_TCDD (bird)	Not available	5.18E-08	2.11E-06	2.16E-06	1.00E-06	**2.16E+00**
6_TCDD (mammal)	Not available	9.62E-09	1.18E-06	1.19E-06	1.00E-06	**1.19E+00**
6_Total DDTs	Not available	5.33E-05	4.24E-03	4.29E-03	0.15	2.92E-02
6_Total HPAHs	Not available	1.24E-04	3.37E-03	3.50E-03	0.62	5.68E-03
6_Total LPAHs	Not available	7.49E-05	1.87E-03	1.95E-03	65.60	2.97E-05
6_Total PCBs	Not available	1.62E-05	1.63E-02	1.63E-02	0.01	**1.83E+00**

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Little Brown Bat

BW	0.008	kg					
FIR-dry	0.001	kg/d-dw	Diet (%)				
FIR-wet	0.005	kg/d-ww	Fish	0%	Birds	0%	
WIR	0.001	L/d	Amphibians	0%	Mammals	0%	
SIR-dry	0.0000	kg/d-dw	Mussels	0%	Reptiles	0%	
SIR-wet	0.0001	kg/d-ww	Aq. Inverts	50%	Ter. Inverts	50%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	0%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	6.55E-01	1.64E+01	1.70E+01	0.06	**2.88E+02**
1_Arsenic	1.39E-04	2.80E-01	4.83E+00	5.11E+00	1.04	**4.91E+00**
1_Barium	Not available	9.18E+00	9.18E+02	9.27E+02	51.80	**1.79E+01**
1_Beryllium	Not available	6.77E-03	3.39E-02	4.06E-02	0.53	7.64E-02
1_Cadmium	3.88E-05	6.77E-02	1.35E+01	1.36E+01	0.77	**1.77E+01**
1_Chromium +3	1.34E-04	6.51E-01	7.61E+00	8.27E+00	2.40	**3.44E+00**
1_Cobalt	Not available	3.22E-01	8.06E+00	8.38E+00	7.33	**1.14E+00**
1_Copper	7.40E-04	1.24E+01	1.63E+03	1.64E+03	5.60	**2.93E+02**
1_Lead	3.17E-04	1.04E+01	1.58E+02	1.68E+02	4.70	**3.57E+01**
1_Manganese	Not available	1.85E+01	7.54E+02	7.73E+02	51.50	**1.50E+01**
1_Mercury	3.23E-07	2.56E-03	1.84E-01	1.86E-01	0.002	**1.09E+02**
1_Methylmercury	Not available	2.56E-03	1.84E-01	1.86E-01	0.002	**1.09E+02**
1_Nickel	1.53E-04	7.30E-02	4.23E+00	4.31E+00	1.70	**2.53E+00**
1_Selenium	Not available	7.34E-02	1.20E+01	1.20E+01	0.14	**8.43E+01**
1_Silver	8.07E-06	4.74E-02	2.13E-01	2.61E-01	6.02	4.33E-02
1_Vanadium	Not available	3.80E-01	3.13E+00	3.51E+00	4.16	8.45E-01
1_Zinc	7.27E-03	1.00E+02	1.88E+04	1.89E+04	75.40	**2.51E+02**
1_TCDD (bird)	Not available	3.87E-09	3.30E-07	3.34E-07	1.00E-06	3.34E-01
1_TCDD (mammal)	Not available	1.32E-09	1.13E-07	1.14E-07	1.00E-06	1.14E-01
1_Total DDTs	Not available	1.33E-05	1.33E-02	1.33E-02	0.15	9.02E-02
1_Total HPAHs	Not available	2.34E-03	7.98E-01	8.01E-01	0.62	**1.30E+00**
1_Total LPAHs	Not available	3.37E-04	1.05E-01	1.06E-01	65.60	1.61E-03
1_Total PCBs	Not available	1.50E-04	9.88E-02	9.90E-02	0.01	**1.11E+01**
2_Antimony	Not available	2.03E-01	5.07E+00	5.27E+00	0.06	**8.94E+01**
2_Arsenic	Not available	2.00E-01	3.45E+00	3.65E+00	1.04	**3.51E+00**
2_Barium	Not available	8.01E+00	8.01E+02	8.09E+02	51.80	**1.56E+01**
2_Beryllium	Not available	9.03E-03	4.51E-02	5.42E-02	0.53	1.02E-01
2_Cadmium	Not available	2.60E-02	5.19E+00	5.22E+00	0.77	**6.78E+00**
2_Chromium +3	Not available	5.64E-01	6.60E+00	7.17E+00	2.40	**2.99E+00**
2_Cobalt	Not available	2.52E-01	6.29E+00	6.54E+00	7.33	8.93E-01
2_Copper	Not available	1.14E+01	1.50E+03	1.51E+03	5.60	**2.69E+02**
2_Lead	Not available	5.98E+00	9.08E+01	9.68E+01	4.70	**2.06E+01**
2_Manganese	Not available	1.83E+01	7.45E+02	7.63E+02	51.50	**1.48E+01**
2_Mercury	Not available	4.14E-03	2.97E-01	3.01E-01	0.0017	**1.77E+02**
2_Methylmercury	Not available	4.14E-03	2.97E-01	3.01E-01	0.0017	**1.77E+02**
2_Nickel	Not available	8.65E-02	5.02E+00	5.11E+00	1.70	**3.00E+00**
2_Selenium	Not available	8.73E-02	1.42E+01	1.43E+01	0.14	**1.00E+02**
2_Silver	Not available	2.90E-02	1.30E-01	1.59E-01	6.02	2.65E-02
2_Vanadium	Not available	3.02E-01	2.50E+00	2.80E+00	4.16	6.73E-01
2_Zinc	Not available	9.37E+01	1.76E+04	1.77E+04	75.40	**2.35E+02**
2_TCDD (bird)	Not available	6.00E-08	5.11E-06	5.17E-06	1.00E-06	**5.17E+00**
2_TCDD (mammal)	Not available	8.57E-09	7.31E-07	7.39E-07	1.00E-06	7.39E-01
2_Total DDTs	Not available	1.22E-05	1.21E-02	1.21E-02	0.15	8.26E-02
2_Total HPAHs	Not available	2.33E-04	7.96E-02	7.98E-02	0.62	1.30E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Little Brown Bat

BW	0.008	kg
FIR-dry	0.001	kg/d-dw
FIR-wet	0.005	kg/d-ww
WIR	0.001	L/d
SIR-dry	0.0000	kg/d-dw
SIR-wet	0.0001	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	50%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	1.02E-04	3.18E-02	3.19E-02	65.60	4.86E-04
2_Total PCBs	Not available	2.07E-04	1.36E-01	1.36E-01	0.01	**1.53E+01**
3_Antimony	Not available	1.60E-01	4.00E+00	4.16E+00	0.06	**7.05E+01**
3_Arsenic	Not available	9.86E-02	1.70E+00	1.80E+00	1.04	**1.73E+00**
3_Barium	Not available	6.06E+00	6.06E+02	6.12E+02	51.80	**1.18E+01**
3_Beryllium	Not available	1.13E-02	5.64E-02	6.77E-02	0.53	1.27E-01
3_Cadmium	Not available	2.75E-02	5.49E+00	5.52E+00	0.77	**7.17E+00**
3_Chromium +3	Not available	4.10E-01	4.80E+00	5.21E+00	2.40	**2.17E+00**
3_Cobalt	Not available	1.57E-01	3.91E+00	4.07E+00	7.33	5.55E-01
3_Copper	Not available	8.43E+00	1.11E+03	1.11E+03	5.60	**1.99E+02**
3_Lead	Not available	4.33E+00	6.57E+01	7.00E+01	4.70	**1.49E+01**
3_Manganese	Not available	1.76E+01	7.19E+02	7.37E+02	51.50	**1.43E+01**
3_Mercury	Not available	4.51E-03	3.24E-01	3.28E-01	0.0017	**1.93E+02**
3_Methylmercury	Not available	4.51E-03	3.24E-01	3.28E-01	0.0017	**1.93E+02**
3_Nickel	Not available	1.99E-01	1.15E+01	1.17E+01	1.70	**6.89E+00**
3_Selenium	Not available	8.80E-02	1.44E+01	1.45E+01	0.14	**1.01E+02**
3_Silver	Not available	1.88E-02	8.46E-02	1.03E-01	6.02	1.72E-02
3_Vanadium	Not available	4.14E-01	3.41E+00	3.83E+00	4.16	9.20E-01
3_Zinc	Not available	9.33E+01	1.76E+04	1.76E+04	75.40	**2.34E+02**
3_TCDD (bird)	Not available	9.51E-08	8.11E-06	8.21E-06	1.00E-06	**8.21E+00**
3_TCDD (mammal)	Not available	1.30E-08	1.11E-06	1.12E-06	1.00E-06	**1.12E+00**
3_Total DDTs	Not available	3.20E-05	3.18E-02	3.19E-02	0.15	2.17E-01
3_Total HPAHs	Not available	3.05E-04	1.04E-01	1.04E-01	0.62	1.70E-01
3_Total LPAHs	Not available	4.63E-04	1.45E-01	1.45E-01	65.60	2.21E-03
3_Total PCBs	Not available	3.39E-04	2.22E-01	2.23E-01	0.01	**2.50E+01**
4a_Antimony	Not available	2.69E-02	6.72E-01	6.99E-01	0.06	**1.19E+01**
4a_Arsenic	Not available	7.60E-02	1.31E+00	1.39E+00	1.04	**1.33E+00**
4a_Barium	Not available	4.66E+00	4.66E+02	4.71E+02	51.80	**9.10E+00**
4a_Beryllium	Not available	1.13E-02	5.64E-02	6.77E-02	0.53	1.27E-01
4a_Cadmium	Not available	5.34E-02	1.07E+01	1.07E+01	0.77	**1.39E+01**
4a_Chromium +3	Not available	2.89E-01	3.38E+00	3.67E+00	2.40	**1.53E+00**
4a_Cobalt	Not available	7.52E-02	1.88E+00	1.96E+00	7.33	2.67E-01
4a_Copper	Not available	5.72E-01	7.51E+01	7.56E+01	5.60	**1.35E+01**
4a_Lead	Not available	3.16E+00	4.80E+01	5.12E+01	4.70	**1.09E+01**
4a_Manganese	Not available	4.33E+00	1.76E+02	1.81E+02	51.50	**3.51E+00**
4a_Mercury	Not available	9.03E-03	6.48E-01	6.57E-01	0.0017	**3.86E+02**
4a_Methylmercury	Not available	9.03E-03	6.48E-01	6.57E-01	0.0017	**3.86E+02**
4a_Nickel	Not available	1.43E-01	8.29E+00	8.43E+00	1.70	**4.96E+00**
4a_Selenium	Not available	2.93E-02	4.79E+00	4.82E+00	0.14	**3.37E+01**
4a_Silver	Not available	1.09E-02	4.91E-02	6.00E-02	6.02	9.97E-03
4a_Vanadium	Not available	3.87E-01	3.20E+00	3.58E+00	4.16	8.62E-01
4a_Zinc	Not available	6.43E+00	1.21E+03	1.22E+03	75.40	**1.61E+01**
4a_TCDD (bird)	Not available	1.13E-07	9.64E-06	9.75E-06	1.00E-06	**9.75E+00**
4a_TCDD (mammal)	Not available	1.72E-08	1.47E-06	1.49E-06	1.00E-06	**1.49E+00**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Little Brown Bat

BW	0.008	kg
FIR-dry	0.001	kg/d-dw
FIR-wet	0.005	kg/d-ww
WIR	0.001	L/d
SIR-dry	0.0000	kg/d-dw
SIR-wet	0.0001	kg/d-ww
AUF	1.0	Unitless

Diet (%)

Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	50%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	6.32E-05	6.29E-02	6.30E-02	0.15	4.28E-01
4a_Total HPAHs	Not available	2.69E-04	9.18E-02	9.20E-02	0.62	1.50E-01
4a_Total LPAHs	Not available	1.79E-04	5.59E-02	5.61E-02	65.60	8.55E-04
4a_Total PCBs	Not available	9.18E-04	6.03E-01	6.04E-01	0.01	**6.78E+01**
4b_Antimony	Not available	1.58E-02	3.95E-01	4.11E-01	0.06	**6.96E+00**
4b_Arsenic	Not available	6.13E-02	1.06E+00	1.12E+00	1.04	**1.08E+00**
4b_Barium	Not available	4.44E+00	4.44E+02	4.48E+02	51.80	**8.66E+00**
4b_Beryllium	Not available	1.02E-02	5.08E-02	6.09E-02	0.53	1.15E-01
4b_Cadmium	Not available	4.78E-02	9.56E+00	9.60E+00	0.77	**1.25E+01**
4b_Chromium +3	Not available	3.80E-01	4.45E+00	4.83E+00	2.40	**2.01E+00**
4b_Cobalt	Not available	6.92E-02	1.73E+00	1.80E+00	7.33	2.46E-01
4b_Copper	Not available	3.67E-01	4.81E+01	4.85E+01	5.60	**8.66E+00**
4b_Lead	Not available	3.16E+00	4.80E+01	5.12E+01	4.70	**1.09E+01**
4b_Manganese	Not available	1.20E+01	4.91E+02	5.03E+02	51.50	**9.76E+00**
4b_Mercury	Not available	6.77E-03	4.86E-01	4.93E-01	0.0017	**2.90E+02**
4b_Methylmercury	Not available	6.77E-03	4.86E-01	4.93E-01	0.0017	**2.90E+02**
4b_Nickel	Not available	1.81E-01	1.05E+01	1.07E+01	1.70	**6.27E+00**
4b_Selenium	Not available	2.97E-02	4.85E+00	4.88E+00	0.14	**3.41E+01**
4b_Silver	Not available	6.40E-03	2.88E-02	3.52E-02	6.02	5.84E-03
4b_Vanadium	Not available	4.21E-01	3.48E+00	3.90E+00	4.16	9.37E-01
4b_Zinc	Not available	4.63E+00	8.71E+02	8.75E+02	75.40	**1.16E+01**
4b_TCDD (bird)	Not available	7.52E-08	6.42E-06	6.49E-06	1.00E-06	**6.49E+00**
4b_TCDD (mammal)	Not available	1.02E-08	8.74E-07	8.84E-07	1.00E-06	8.84E-01
4b_Total DDTs	Not available	1.29E-03	1.28E+00	1.28E+00	0.15	**8.71E+00**
4b_Total HPAHs	Not available	4.97E-04	1.69E-01	1.70E-01	0.62	2.76E-01
4b_Total LPAHs	Not available	1.24E-04	3.88E-02	3.89E-02	65.60	5.94E-04
4b_Total PCBs	Not available	2.07E-04	1.36E-01	1.36E-01	0.01	**1.53E+01**
5_Antimony	Not available	3.50E-02	8.75E-01	9.10E-01	0.06	**1.54E+01**
5_Arsenic	Not available	8.28E-02	1.43E+00	1.51E+00	1.04	**1.45E+00**
5_Barium	Not available	4.06E+00	4.06E+02	4.10E+02	51.80	**7.92E+00**
5_Beryllium	Not available	1.09E-02	5.46E-02	6.55E-02	0.53	1.23E-01
5_Cadmium	Not available	6.09E-02	1.22E+01	1.23E+01	0.77	**1.59E+01**
5_Chromium +3	Not available	3.80E-01	4.45E+00	4.83E+00	2.40	**2.01E+00**
5_Cobalt	Not available	7.30E-02	1.82E+00	1.90E+00	7.33	2.59E-01
5_Copper	Not available	3.37E-01	4.43E+01	4.46E+01	5.60	**7.97E+00**
5_Lead	Not available	2.19E+00	3.33E+01	3.55E+01	4.70	**7.55E+00**
5_Manganese	Not available	1.42E+01	5.79E+02	5.94E+02	51.50	**1.15E+01**
5_Mercury	Not available	4.70E-03	3.37E-01	3.42E-01	0.0017	**2.01E+02**
5_Methylmercury	Not available	4.70E-03	3.37E-01	3.42E-01	0.0017	**2.01E+02**
5_Nickel	Not available	1.88E-01	1.09E+01	1.11E+01	1.70	**6.54E+00**
5_Selenium	Not available	3.35E-02	5.47E+00	5.50E+00	0.14	**3.85E+01**
5_Silver	Not available	5.83E-03	2.62E-02	3.21E-02	6.02	5.33E-03
5_Vanadium	Not available	4.70E-01	3.88E+00	4.35E+00	4.16	**1.05E+00**
5_Zinc	Not available	4.70E+00	8.85E+02	8.90E+02	75.40	**1.18E+01**

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Little Brown Bat

BW	0.008	kg
FIR-dry	0.001	kg/d-dw
FIR-wet	0.005	kg/d-ww
WIR	0.001	L/d
SIR-dry	0.0000	kg/d-dw
SIR-wet	0.0001	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	50%	Ter. Inverts	50%
Aq. Plants	0%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	2.09E-07	1.78E-05	1.80E-05	1.00E-06	**1.80E+01**
5_TCDD (mammal)	Not available	2.80E-08	2.39E-06	2.42E-06	1.00E-06	**2.42E+00**
5_Total DDTs	Not available	1.93E-05	1.92E-02	1.93E-02	0.15	1.31E-01
5_Total HPAHs	Not available	3.54E-04	1.21E-01	1.21E-01	0.62	1.97E-01
5_Total LPAHs	Not available	1.47E-04	4.59E-02	4.60E-02	65.60	7.02E-04
5_Total PCBs	Not available	3.01E-05	1.98E-02	1.98E-02	0.01	**2.22E+00**
6_Antimony	Not available	3.59E-02	8.98E-01	9.34E-01	0.06	**1.58E+01**
6_Arsenic	Not available	5.83E-02	1.01E+00	1.06E+00	1.04	**1.02E+00**
6_Barium	Not available	3.87E+00	3.87E+02	3.91E+02	51.80	**7.56E+00**
6_Beryllium	Not available	1.02E-02	5.08E-02	6.09E-02	0.53	1.15E-01
6_Cadmium	Not available	4.66E-02	9.33E+00	9.38E+00	0.77	**1.22E+01**
6_Chromium +3	Not available	2.97E-01	3.48E+00	3.77E+00	2.40	**1.57E+00**
6_Cobalt	Not available	7.30E-02	1.82E+00	1.90E+00	7.33	2.59E-01
6_Copper	Not available	3.37E-01	4.42E+01	4.45E+01	5.60	**7.95E+00**
6_Lead	Not available	1.74E+00	2.64E+01	2.81E+01	4.70	**5.98E+00**
6_Manganese	Not available	8.62E+00	3.51E+02	3.60E+02	51.50	**6.98E+00**
6_Mercury	Not available	6.77E-03	4.86E-01	4.93E-01	0.0017	**2.90E+02**
6_Methylmercury	Not available	6.77E-03	4.86E-01	4.93E-01	0.0017	**2.90E+02**
6_Nickel	Not available	1.47E-01	8.55E+00	8.70E+00	1.70	**5.12E+00**
6_Selenium	Not available	3.24E-02	5.28E+00	5.31E+00	0.14	**3.72E+01**
6_Silver	Not available	7.90E-03	3.56E-02	4.35E-02	6.02	7.22E-03
6_Vanadium	Not available	3.52E-01	2.90E+00	3.25E+00	4.16	7.82E-01
6_Zinc	Not available	4.55E+00	8.57E+02	8.61E+02	75.40	**1.14E+01**
6_TCDD (bird)	Not available	1.14E-07	9.76E-06	9.88E-06	1.00E-06	**9.88E+00**
6_TCDD (mammal)	Not available	2.13E-08	1.81E-06	1.84E-06	1.00E-06	**1.84E+00**
6_Total DDTs	Not available	1.18E-04	1.17E-01	1.17E-01	0.15	7.98E-01
6_Total HPAHs	Not available	2.73E-04	9.32E-02	9.35E-02	0.62	1.52E-01
6_Total LPAHs	Not available	1.66E-04	5.18E-02	5.19E-02	65.60	7.92E-04
6_Total PCBs	Not available	3.57E-05	2.35E-02	2.35E-02	0.01	**2.64E+00**

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Muskrat

BW	0.873	kg				
FIR-dry	0.060	kg/d-dw	Diet (%)			
FIR-wet	0.183	kg/d-ww	Fish	0%	Birds	0%
WIR	0.088	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0030	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0092	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	100%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	6.02E-01	5.98E+00	6.58E+00	0.06	**1.11E+02**
1_Arsenic	8.63E-05	2.57E-01	2.78E+00	3.04E+00	1.04	**2.92E+00**
1_Barium	Not available	8.44E+00	6.44E+01	7.28E+01	51.80	**1.41E+00**
1_Beryllium	Not available	6.23E-03	9.77E-02	1.04E-01	0.53	1.95E-01
1_Cadmium	2.41E-05	6.23E-02	7.76E-01	8.38E-01	0.77	**1.09E+00**
1_Chromium +3	8.33E-05	5.98E-01	5.95E+00	6.54E+00	2.40	**2.73E+00**
1_Cobalt	Not available	2.96E-01	3.16E+00	3.46E+00	7.33	4.71E-01
1_Copper	4.60E-04	1.14E+01	8.44E+01	9.59E+01	5.60	**1.71E+01**
1_Lead	1.97E-04	9.55E+00	7.19E+01	8.15E+01	4.70	**1.73E+01**
1_Manganese	Not available	1.70E+01	1.21E+02	1.38E+02	51.50	**2.68E+00**
1_Mercury	2.01E-07	2.35E-03	4.07E-02	4.30E-02	0.002	**2.53E+01**
1_Methylmercury	Not available	2.35E-03	4.07E-02	4.30E-02	0.002	**2.53E+01**
1_Nickel	9.53E-05	6.71E-02	8.30E-01	8.97E-01	1.70	5.28E-01
1_Selenium	Not available	6.74E-02	8.34E-01	9.01E-01	0.14	**6.30E+00**
1_Silver	5.02E-06	4.36E-02	5.63E-01	6.06E-01	6.02	1.01E-01
1_Vanadium	Not available	3.49E-01	3.66E+00	4.01E+00	4.16	9.64E-01
1_Zinc	4.52E-03	9.20E+01	5.52E+02	6.45E+02	75.40	**8.55E+00**
1_TCDD (bird)	Not available	3.56E-09	4.17E-09	7.73E-09	1.00E-06	7.73E-03
1_TCDD (mammal)	Not available	1.22E-09	1.43E-09	2.64E-09	1.00E-06	2.64E-03
1_Total DDTs	Not available	1.22E-05	1.44E-05	2.66E-05	0.15	1.81E-04
1_Total HPAHs	Not available	2.15E-03	2.52E-03	4.67E-03	0.62	7.60E-03
1_Total LPAHs	Not available	3.10E-04	3.63E-04	6.72E-04	65.60	1.03E-05
1_Total PCBs	Not available	1.38E-04	6.07E-04	7.45E-04	0.01	8.37E-02
2_Antimony	Not available	1.86E-01	2.08E+00	2.27E+00	0.06	**3.84E+01**
2_Arsenic	Not available	1.84E-01	2.06E+00	2.24E+00	1.04	**2.15E+00**
2_Barium	Not available	7.37E+00	5.69E+01	6.43E+01	51.80	**1.24E+00**
2_Beryllium	Not available	8.30E-03	1.27E-01	1.35E-01	0.53	2.53E-01
2_Cadmium	Not available	2.39E-02	3.27E-01	3.51E-01	0.77	4.56E-01
2_Chromium +3	Not available	5.19E-01	5.23E+00	5.75E+00	2.40	**2.39E+00**
2_Cobalt	Not available	2.31E-01	2.53E+00	2.76E+00	7.33	3.76E-01
2_Copper	Not available	1.05E+01	7.82E+01	8.87E+01	5.60	**1.58E+01**
2_Lead	Not available	5.50E+00	4.38E+01	4.93E+01	4.70	**1.05E+01**
2_Manganese	Not available	1.68E+01	1.20E+02	1.36E+02	51.50	**2.65E+00**
2_Mercury	Not available	3.80E-03	6.27E-02	6.65E-02	0.0017	**3.91E+01**
2_Methylmercury	Not available	3.80E-03	6.27E-02	6.65E-02	0.0017	**3.91E+01**
2_Nickel	Not available	7.95E-02	9.67E-01	1.05E+00	1.70	6.16E-01
2_Selenium	Not available	8.02E-02	9.75E-01	1.05E+00	0.14	**7.38E+00**
2_Silver	Not available	2.66E-02	3.61E-01	3.88E-01	6.02	6.44E-02
2_Vanadium	Not available	2.78E-01	2.98E+00	3.26E+00	4.16	7.84E-01
2_Zinc	Not available	8.61E+01	5.21E+02	6.07E+02	75.40	**8.05E+00**
2_TCDD (bird)	Not available	5.51E-08	6.46E-08	1.20E-07	1.00E-06	1.20E-01
2_TCDD (mammal)	Not available	7.88E-09	9.23E-09	1.71E-08	1.00E-06	1.71E-02
2_Total DDTs	Not available	1.12E-05	1.31E-05	2.43E-05	0.15	1.66E-04
2_Total HPAHs	Not available	2.14E-04	2.51E-04	4.66E-04	0.62	7.57E-04

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Muskrat

BW	0.873	kg				
FIR-dry	0.060	kg/d-dw	Diet (%)			
FIR-wet	0.183	kg/d-ww	Fish	0%	Birds	0%
WIR	0.088	L/d	Amphibians	0%	Mammals	0%
SIR-dry	0.0030	kg/d-dw	Mussels	0%	Reptiles	0%
SIR-wet	0.0092	kg/d-ww	Aq. Inverts	0%	Ter. Inverts	0%
AUF	1.0	Unitless	Aq. Plants	100%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	9.34E-05	1.09E-04	2.03E-04	65.60	3.09E-06
2_Total PCBs	Not available	1.90E-04	8.34E-04	1.02E-03	0.01	1.15E-01
3_Antimony	Not available	1.47E-01	1.68E+00	1.83E+00	0.06	**3.10E+01**
3_Arsenic	Not available	9.06E-02	1.09E+00	1.18E+00	1.04	**1.13E+00**
3_Barium	Not available	5.57E+00	4.43E+01	4.98E+01	51.80	9.62E-01
3_Beryllium	Not available	1.04E-02	1.55E-01	1.65E-01	0.53	3.10E-01
3_Cadmium	Not available	2.52E-02	3.44E-01	3.70E-01	0.77	4.80E-01
3_Chromium +3	Not available	3.77E-01	3.92E+00	4.30E+00	2.40	**1.79E+00**
3_Cobalt	Not available	1.44E-01	1.65E+00	1.79E+00	7.33	2.45E-01
3_Copper	Not available	7.75E+00	5.96E+01	6.73E+01	5.60	**1.20E+01**
3_Lead	Not available	3.98E+00	3.27E+01	3.67E+01	4.70	**7.80E+00**
3_Manganese	Not available	1.62E+01	1.16E+02	1.32E+02	51.50	**2.56E+00**
3_Mercury	Not available	4.15E-03	6.78E-02	7.19E-02	0.0017	**4.23E+01**
3_Methylmercury	Not available	4.15E-03	6.78E-02	7.19E-02	0.0017	**4.23E+01**
3_Nickel	Not available	1.83E-01	2.04E+00	2.23E+00	1.70	**1.31E+00**
3_Selenium	Not available	8.09E-02	9.82E-01	1.06E+00	0.14	**7.43E+00**
3_Silver	Not available	1.73E-02	2.45E-01	2.62E-01	6.02	4.36E-02
3_Vanadium	Not available	3.80E-01	3.96E+00	4.34E+00	4.16	**1.04E+00**
3_Zinc	Not available	8.58E+01	5.19E+02	6.05E+02	75.40	**8.02E+00**
3_TCDD (bird)	Not available	8.75E-08	1.03E-07	1.90E-07	1.00E-06	1.90E-01
3_TCDD (mammal)	Not available	1.19E-08	1.40E-08	2.59E-08	1.00E-06	2.59E-02
3_Total DDTs	Not available	2.94E-05	3.45E-05	6.39E-05	0.15	4.34E-04
3_Total HPAHs	Not available	2.80E-04	3.28E-04	6.09E-04	0.62	9.90E-04
3_Total LPAHs	Not available	4.25E-04	4.99E-04	9.24E-04	65.60	1.41E-05
3_Total PCBs	Not available	3.11E-04	1.36E-03	1.68E-03	0.01	1.88E-01
4a_Antimony	Not available	2.47E-02	3.38E-01	3.63E-01	0.06	**6.15E+00**
4a_Arsenic	Not available	6.99E-02	8.61E-01	9.30E-01	1.04	8.95E-01
4a_Barium	Not available	4.29E+00	3.50E+01	3.93E+01	51.80	7.58E-01
4a_Beryllium	Not available	1.04E-02	1.55E-01	1.65E-01	0.53	3.10E-01
4a_Cadmium	Not available	4.91E-02	6.27E-01	6.76E-01	0.77	8.78E-01
4a_Chromium +3	Not available	2.66E-01	2.86E+00	3.13E+00	2.40	**1.30E+00**
4a_Cobalt	Not available	6.92E-02	8.53E-01	9.22E-01	7.33	1.26E-01
4a_Copper	Not available	5.26E-01	5.29E+00	5.82E+00	5.60	**1.04E+00**
4a_Lead	Not available	2.91E+00	2.47E+01	2.76E+01	4.70	**5.87E+00**
4a_Manganese	Not available	3.98E+00	3.27E+01	3.67E+01	51.50	7.12E-01
4a_Mercury	Not available	8.30E-03	1.27E-01	1.35E-01	0.0017	**7.93E+01**
4a_Methylmercury	Not available	8.30E-03	1.27E-01	1.35E-01	0.0017	**7.93E+01**
4a_Nickel	Not available	1.31E-01	1.52E+00	1.65E+00	1.70	9.71E-01
4a_Selenium	Not available	2.70E-02	3.65E-01	3.92E-01	0.14	**2.74E+00**
4a_Silver	Not available	1.00E-02	1.50E-01	1.60E-01	6.02	2.66E-02
4a_Vanadium	Not available	3.56E-01	3.73E+00	4.08E+00	4.16	9.82E-01
4a_Zinc	Not available	5.91E+00	4.67E+01	5.26E+01	75.40	6.98E-01
4a_TCDD (bird)	Not available	1.04E-07	1.22E-07	2.26E-07	1.00E-06	2.26E-01
4a_TCDD (mammal)	Not available	1.58E-08	1.86E-08	3.44E-08	1.00E-06	3.44E-02

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Muskrat

BW	0.873	kg
FIR-dry	0.060	kg/d-dw
FIR-wet	0.183	kg/d-ww
WIR	0.088	L/d
SIR-dry	0.0030	kg/d-dw
SIR-wet	0.0092	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	100%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	5.81E-05	6.81E-05	1.26E-04	0.15	8.59E-04
4a_Total HPAHs	Not available	2.47E-04	2.90E-04	5.37E-04	0.62	8.74E-04
4a_Total LPAHs	Not available	1.64E-04	1.93E-04	3.57E-04	65.60	5.44E-06
4a_Total PCBs	Not available	8.44E-04	3.70E-03	4.54E-03	0.01	5.11E-01
4b_Antimony	Not available	1.45E-02	2.09E-01	2.24E-01	0.06	**3.79E+00**
4b_Arsenic	Not available	5.64E-02	7.09E-01	7.66E-01	1.04	7.36E-01
4b_Barium	Not available	4.08E+00	3.35E+01	3.75E+01	51.80	7.25E-01
4b_Beryllium	Not available	9.34E-03	1.41E-01	1.50E-01	0.53	2.82E-01
4b_Cadmium	Not available	4.39E-02	5.67E-01	6.11E-01	0.77	7.93E-01
4b_Chromium +3	Not available	3.49E-01	3.66E+00	4.01E+00	2.40	**1.67E+00**
4b_Cobalt	Not available	6.36E-02	7.91E-01	8.55E-01	7.33	1.17E-01
4b_Copper	Not available	3.37E-01	3.55E+00	3.89E+00	5.60	6.94E-01
4b_Lead	Not available	2.91E+00	2.47E+01	2.76E+01	4.70	**5.87E+00**
4b_Manganese	Not available	1.11E+01	8.21E+01	9.32E+01	51.50	**1.81E+00**
4b_Mercury	Not available	6.23E-03	9.77E-02	1.04E-01	0.0017	**6.11E+01**
4b_Methylmercury	Not available	6.23E-03	9.77E-02	1.04E-01	0.0017	**6.11E+01**
4b_Nickel	Not available	1.66E-01	1.88E+00	2.04E+00	1.70	**1.20E+00**
4b_Selenium	Not available	2.73E-02	3.70E-01	3.97E-01	0.14	**2.78E+00**
4b_Silver	Not available	5.88E-03	9.28E-02	9.86E-02	6.02	1.64E-02
4b_Vanadium	Not available	3.87E-01	4.02E+00	4.41E+00	4.16	**1.06E+00**
4b_Zinc	Not available	4.25E+00	3.47E+01	3.90E+01	75.40	5.17E-01
4b_TCDD (bird)	Not available	6.92E-08	8.11E-08	1.50E-07	1.00E-06	1.50E-01
4b_TCDD (mammal)	Not available	9.42E-09	1.10E-08	2.05E-08	1.00E-06	2.05E-02
4b_Total DDTs	Not available	1.18E-03	1.39E-03	2.57E-03	0.15	1.75E-02
4b_Total HPAHs	Not available	4.57E-04	5.35E-04	9.92E-04	0.62	1.61E-03
4b_Total LPAHs	Not available	1.14E-04	1.34E-04	2.48E-04	65.60	3.78E-06
4b_Total PCBs	Not available	1.90E-04	8.34E-04	1.02E-03	0.01	1.15E-01
5_Antimony	Not available	3.22E-02	4.28E-01	4.60E-01	0.06	**7.80E+00**
5_Arsenic	Not available	7.61E-02	9.29E-01	1.01E+00	1.04	9.67E-01
5_Barium	Not available	3.74E+00	3.09E+01	3.46E+01	51.80	6.69E-01
5_Beryllium	Not available	1.00E-02	1.50E-01	1.60E-01	0.53	3.01E-01
5_Cadmium	Not available	5.60E-02	7.06E-01	7.62E-01	0.77	9.89E-01
5_Chromium +3	Not available	3.49E-01	3.66E+00	4.01E+00	2.40	**1.67E+00**
5_Cobalt	Not available	6.71E-02	8.30E-01	8.97E-01	7.33	1.22E-01
5_Copper	Not available	3.10E-01	3.29E+00	3.60E+00	5.60	6.43E-01
5_Lead	Not available	2.02E+00	1.77E+01	1.98E+01	4.70	**4.20E+00**
5_Manganese	Not available	1.31E+01	9.54E+01	1.09E+02	51.50	**2.11E+00**
5_Mercury	Not available	4.32E-03	7.03E-02	7.47E-02	0.0017	**4.39E+01**
5_Methylmercury	Not available	4.32E-03	7.03E-02	7.47E-02	0.0017	**4.39E+01**
5_Nickel	Not available	1.73E-01	1.95E+00	2.12E+00	1.70	**1.25E+00**
5_Selenium	Not available	3.08E-02	4.12E-01	4.42E-01	0.14	**3.09E+00**
5_Silver	Not available	5.36E-03	8.54E-02	9.07E-02	6.02	1.51E-02
5_Vanadium	Not available	4.32E-01	4.44E+00	4.87E+00	4.16	**1.17E+00**
5_Zinc	Not available	4.32E+00	3.52E+01	3.96E+01	75.40	5.25E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Muskrat

BW	0.873	kg
FIR-dry	0.060	kg/d-dw
FIR-wet	0.183	kg/d-ww
WIR	0.088	L/d
SIR-dry	0.0030	kg/d-dw
SIR-wet	0.0092	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	0%	Birds	0%
Amphibians	0%	Mammals	0%
Mussels	0%	Reptiles	0%
Aq. Inverts	0%	Ter. Inverts	0%
Aq. Plants	100%	Ter. Plants	0%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	1.92E-07	2.25E-07	4.17E-07	1.00E-06	4.17E-01
5_TCDD (mammal)	Not available	2.57E-08	3.02E-08	5.59E-08	1.00E-06	5.59E-02
5_Total DDTs	Not available	1.78E-05	2.08E-05	3.86E-05	0.15	2.63E-04
5_Total HPAHs	Not available	3.25E-04	3.81E-04	7.06E-04	0.62	1.15E-03
5_Total LPAHs	Not available	1.35E-04	1.58E-04	2.93E-04	65.60	4.47E-06
5_Total PCBs	Not available	2.77E-05	1.21E-04	1.49E-04	0.01	1.67E-02
6_Antimony	Not available	3.30E-02	4.38E-01	4.71E-01	0.06	**7.99E+00**
6_Arsenic	Not available	5.36E-02	6.78E-01	7.32E-01	1.04	7.03E-01
6_Barium	Not available	3.56E+00	2.96E+01	3.32E+01	51.80	6.40E-01
6_Beryllium	Not available	9.34E-03	1.41E-01	1.50E-01	0.53	2.82E-01
6_Cadmium	Not available	4.29E-02	5.55E-01	5.98E-01	0.77	7.76E-01
6_Chromium +3	Not available	2.73E-01	2.94E+00	3.21E+00	2.40	**1.34E+00**
6_Cobalt	Not available	6.71E-02	8.30E-01	8.97E-01	7.33	1.22E-01
6_Copper	Not available	3.10E-01	3.29E+00	3.59E+00	5.60	6.42E-01
6_Lead	Not available	1.60E+00	1.44E+01	1.60E+01	4.70	**3.40E+00**
6_Manganese	Not available	7.92E+00	6.08E+01	6.87E+01	51.50	**1.33E+00**
6_Mercury	Not available	6.23E-03	9.77E-02	1.04E-01	0.0017	**6.11E+01**
6_Methylmercury	Not available	6.23E-03	9.77E-02	1.04E-01	0.0017	**6.11E+01**
6_Nickel	Not available	1.36E-01	1.56E+00	1.70E+00	1.70	9.99E-01
6_Selenium	Not available	2.97E-02	3.99E-01	4.29E-01	0.14	**3.00E+00**
6_Silver	Not available	7.26E-03	1.12E-01	1.19E-01	6.02	1.98E-02
6_Vanadium	Not available	3.23E-01	3.42E+00	3.74E+00	4.16	8.99E-01
6_Zinc	Not available	4.18E+00	3.42E+01	3.84E+01	75.40	5.10E-01
6_TCDD (bird)	Not available	1.05E-07	1.23E-07	2.29E-07	1.00E-06	2.29E-01
6_TCDD (mammal)	Not available	1.96E-08	2.29E-08	4.25E-08	1.00E-06	4.25E-02
6_Total DDTs	Not available	1.08E-04	1.27E-04	2.35E-04	0.15	1.60E-03
6_Total HPAHs	Not available	2.51E-04	2.94E-04	5.45E-04	0.62	8.87E-04
6_Total LPAHs	Not available	1.52E-04	1.78E-04	3.31E-04	65.60	5.04E-06
6_Total PCBs	Not available	3.29E-05	1.44E-04	1.77E-04	0.01	1.99E-02

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Raccoon

BW	6.900	kg					
FIR-dry	0.173	kg/d-dw	Diet (%)				
FIR-wet	0.539	kg/d-ww	Fish	2%	Birds	7%	
WIR	0.563	L/d	Amphibians	0%	Mammals	7%	
SIR-dry	0.0163	kg/d-dw	Mussels	5%	Reptiles	0%	
SIR-wet	0.0507	kg/d-ww	Aq. Inverts	14%	Ter. Inverts	27%	
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	38%	

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
1_Antimony	Not available	4.10E-01	8.30E-01	1.24E+00	0.06	**2.10E+01**
1_Arsenic	7.02E-05	1.75E-01	2.45E-01	4.21E-01	1.04	4.05E-01
1_Barium	Not available	5.75E+00	4.65E+01	5.23E+01	51.80	**1.01E+00**
1_Beryllium	Not available	4.24E-03	1.72E-03	5.96E-03	0.53	1.12E-02
1_Cadmium	1.96E-05	4.24E-02	6.87E-01	7.29E-01	0.77	9.47E-01
1_Chromium +3	6.77E-05	4.08E-01	3.91E-01	7.99E-01	2.40	3.33E-01
1_Cobalt	Not available	2.02E-01	4.09E-01	6.11E-01	7.33	8.34E-02
1_Copper	3.74E-04	7.78E+00	8.26E+01	9.04E+01	5.60	**1.61E+01**
1_Lead	1.60E-04	6.51E+00	8.00E+00	1.45E+01	4.70	**3.09E+00**
1_Manganese	Not available	1.16E+01	3.83E+01	4.99E+01	51.50	9.68E-01
1_Mercury	1.63E-07	1.60E-03	9.70E-03	1.13E-02	0.002	**6.65E+00**
1_Methylmercury	Not available	1.60E-03	9.70E-03	1.13E-02	0.002	**6.65E+00**
1_Nickel	7.75E-05	4.57E-02	2.16E-01	2.62E-01	1.70	1.54E-01
1_Selenium	Not available	4.60E-02	6.09E-01	6.55E-01	0.14	**4.58E+00**
1_Silver	4.08E-06	2.97E-02	1.09E-02	4.06E-02	6.02	6.74E-03
1_Vanadium	Not available	2.38E-01	1.59E-01	3.98E-01	4.16	9.56E-02
1_Zinc	3.67E-03	6.27E+01	9.54E+02	1.02E+03	75.40	**1.35E+01**
1_TCDD (bird)	Not available	2.43E-09	3.96E-08	4.20E-08	1.00E-06	4.20E-02
1_TCDD (mammal)	Not available	8.30E-10	2.08E-08	2.16E-08	1.00E-06	2.16E-02
1_Total DDTs	Not available	8.35E-06	6.71E-04	6.80E-04	0.15	4.62E-03
1_Total HPAHs	Not available	1.47E-03	4.05E-02	4.19E-02	0.62	6.82E-02
1_Total LPAHs	Not available	2.11E-04	5.34E-03	5.55E-03	65.60	8.46E-05
1_Total PCBs	Not available	9.43E-05	5.24E-03	5.33E-03	0.01	5.99E-01
2_Antimony	Not available	1.27E-01	2.57E-01	3.84E-01	0.06	**6.51E+00**
2_Arsenic	Not available	1.25E-01	1.77E-01	3.02E-01	1.04	2.91E-01
2_Barium	Not available	5.02E+00	4.06E+01	4.56E+01	51.80	8.81E-01
2_Beryllium	Not available	5.66E-03	2.29E-03	7.95E-03	0.53	1.49E-02
2_Cadmium	Not available	1.63E-02	2.64E-01	2.80E-01	0.77	3.64E-01
2_Chromium +3	Not available	3.54E-01	3.37E-01	6.91E-01	2.40	2.88E-01
2_Cobalt	Not available	1.58E-01	3.19E-01	4.77E-01	7.33	6.50E-02
2_Copper	Not available	7.14E+00	7.58E+01	8.30E+01	5.60	**1.48E+01**
2_Lead	Not available	3.75E+00	4.61E+00	8.36E+00	4.70	**1.78E+00**
2_Manganese	Not available	1.15E+01	3.78E+01	4.92E+01	51.50	9.56E-01
2_Mercury	Not available	2.59E-03	1.55E-02	1.81E-02	0.0017	**1.06E+01**
2_Methylmercury	Not available	2.59E-03	1.55E-02	1.81E-02	0.0017	**1.06E+01**
2_Nickel	Not available	5.42E-02	2.56E-01	3.10E-01	1.70	1.82E-01
2_Selenium	Not available	5.47E-02	7.24E-01	7.78E-01	0.14	**5.44E+00**
2_Silver	Not available	1.82E-02	6.67E-03	2.48E-02	6.02	4.12E-03
2_Vanadium	Not available	1.90E-01	1.27E-01	3.16E-01	4.16	7.60E-02
2_Zinc	Not available	5.87E+01	8.93E+02	9.52E+02	75.40	**1.26E+01**
2_TCDD (bird)	Not available	3.76E-08	2.83E-07	3.21E-07	1.00E-06	3.21E-01
2_TCDD (mammal)	Not available	5.37E-09	5.01E-08	5.55E-08	1.00E-06	5.55E-02
2_Total DDTs	Not available	7.64E-06	6.15E-04	6.22E-04	0.15	4.23E-03
2_Total HPAHs	Not available	1.46E-04	4.03E-03	4.18E-03	0.62	6.79E-03

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Raccoon

BW	6.900	kg
FIR-dry	0.173	kg/d-dw
FIR-wet	0.539	kg/d-ww
WIR	0.563	L/d
SIR-dry	0.0163	kg/d-dw
SIR-wet	0.0507	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	2%	Birds	7%
Amphibians	0%	Mammals	7%
Mussels	5%	Reptiles	0%
Aq. Inverts	14%	Ter. Inverts	27%
Aq. Plants	0%	Ter. Plants	38%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
2_Total LPAHs	Not available	6.37E-05	1.61E-03	1.67E-03	65.60	2.55E-05
2_Total PCBs	Not available	1.30E-04	8.05E-03	8.18E-03	0.01	9.20E-01
3_Antimony	Not available	1.00E-01	2.03E-01	3.03E-01	0.06	**5.13E+00**
3_Arsenic	Not available	6.18E-02	8.78E-02	1.50E-01	1.04	1.44E-01
3_Barium	Not available	3.80E+00	3.07E+01	3.45E+01	51.80	6.66E-01
3_Beryllium	Not available	7.07E-03	2.86E-03	9.94E-03	0.53	1.87E-02
3_Cadmium	Not available	1.72E-02	2.79E-01	2.96E-01	0.77	3.85E-01
3_Chromium +3	Not available	2.57E-01	2.45E-01	5.02E-01	2.40	2.09E-01
3_Cobalt	Not available	9.81E-02	1.98E-01	2.96E-01	7.33	4.04E-02
3_Copper	Not available	5.28E+00	5.60E+01	6.13E+01	5.60	**1.10E+01**
3_Lead	Not available	2.71E+00	3.33E+00	6.05E+00	4.70	**1.29E+00**
3_Manganese	Not available	1.11E+01	3.64E+01	4.75E+01	51.50	9.22E-01
3_Mercury	Not available	2.83E-03	1.71E-02	1.99E-02	0.0017	**1.17E+01**
3_Methylmercury	Not available	2.83E-03	1.71E-02	1.99E-02	0.0017	**1.17E+01**
3_Nickel	Not available	1.24E-01	5.85E-01	7.09E-01	1.70	4.17E-01
3_Selenium	Not available	5.52E-02	7.30E-01	7.85E-01	0.14	**5.49E+00**
3_Silver	Not available	1.18E-02	4.35E-03	1.61E-02	6.02	2.68E-03
3_Vanadium	Not available	2.59E-01	1.73E-01	4.33E-01	4.16	1.04E-01
3_Zinc	Not available	5.85E+01	8.90E+02	9.48E+02	75.40	**1.26E+01**
3_TCDD (bird)	Not available	5.96E-08	4.25E-07	4.85E-07	1.00E-06	4.85E-01
3_TCDD (mammal)	Not available	8.13E-09	6.37E-08	7.19E-08	1.00E-06	7.19E-02
3_Total DDTs	Not available	2.00E-05	1.61E-03	1.63E-03	0.15	1.11E-02
3_Total HPAHs	Not available	1.91E-04	5.27E-03	5.46E-03	0.62	8.88E-03
3_Total LPAHs	Not available	2.90E-04	7.33E-03	7.62E-03	65.60	1.16E-04
3_Total PCBs	Not available	2.12E-04	1.15E-02	1.17E-02	0.01	**1.32E+00**
4a_Antimony	Not available	1.69E-02	3.42E-02	5.10E-02	0.06	8.65E-01
4a_Arsenic	Not available	4.76E-02	6.87E-02	1.16E-01	1.04	1.12E-01
4a_Barium	Not available	2.92E+00	2.37E+01	2.66E+01	51.80	5.13E-01
4a_Beryllium	Not available	7.07E-03	2.86E-03	9.94E-03	0.53	1.87E-02
4a_Cadmium	Not available	3.35E-02	5.42E-01	5.76E-01	0.77	7.47E-01
4a_Chromium +3	Not available	1.81E-01	1.75E-01	3.56E-01	2.40	1.48E-01
4a_Cobalt	Not available	4.72E-02	9.55E-02	1.43E-01	7.33	1.95E-02
4a_Copper	Not available	3.58E-01	3.81E+00	4.16E+00	5.60	7.44E-01
4a_Lead	Not available	1.98E+00	2.44E+00	4.42E+00	4.70	9.40E-01
4a_Manganese	Not available	2.71E+00	8.95E+00	1.17E+01	51.50	2.26E-01
4a_Mercury	Not available	5.66E-03	3.34E-02	3.91E-02	0.0017	**2.30E+01**
4a_Methylmercury	Not available	5.66E-03	3.34E-02	3.91E-02	0.0017	**2.30E+01**
4a_Nickel	Not available	8.96E-02	4.22E-01	5.11E-01	1.70	3.01E-01
4a_Selenium	Not available	1.84E-02	2.44E-01	2.63E-01	0.14	**1.84E+00**
4a_Silver	Not available	6.84E-03	2.55E-03	9.39E-03	6.02	1.56E-03
4a_Vanadium	Not available	2.43E-01	1.63E-01	4.05E-01	4.16	9.74E-02
4a_Zinc	Not available	4.03E+00	6.14E+01	6.54E+01	75.40	8.68E-01
4a_TCDD (bird)	Not available	7.08E-08	5.07E-07	5.78E-07	1.00E-06	5.78E-01
4a_TCDD (mammal)	Not available	1.08E-08	8.76E-08	9.83E-08	1.00E-06	9.83E-02

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Raccoon

BW	6.900	kg
FIR-dry	0.173	kg/d-dw
FIR-wet	0.539	kg/d-ww
WIR	0.563	L/d
SIR-dry	0.0163	kg/d-dw
SIR-wet	0.0507	kg/d-ww
AUF	1.0	Unitless

Diet (%)			
Fish	2%	Birds	7%
Amphibians	0%	Mammals	7%
Mussels	5%	Reptiles	0%
Aq. Inverts	14%	Ter. Inverts	27%
Aq. Plants	0%	Ter. Plants	38%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
4a_Total DDTs	Not available	3.96E-05	3.19E-03	3.23E-03	0.15	2.19E-02
4a_Total HPAHs	Not available	1.69E-04	4.65E-03	4.82E-03	0.62	7.83E-03
4a_Total LPAHs	Not available	1.12E-04	2.83E-03	2.94E-03	65.60	4.49E-05
4a_Total PCBs	Not available	5.75E-04	3.10E-02	3.16E-02	0.01	**3.55E+00**
4b_Antimony	Not available	9.90E-03	2.01E-02	3.00E-02	0.06	5.09E-01
4b_Arsenic	Not available	3.84E-02	5.59E-02	9.43E-02	1.04	9.07E-02
4b_Barium	Not available	2.78E+00	2.25E+01	2.53E+01	51.80	4.88E-01
4b_Beryllium	Not available	6.37E-03	2.58E-03	8.94E-03	0.53	1.68E-02
4b_Cadmium	Not available	2.99E-02	4.85E-01	5.15E-01	0.77	6.69E-01
4b_Chromium +3	Not available	2.38E-01	2.29E-01	4.67E-01	2.40	1.95E-01
4b_Cobalt	Not available	4.34E-02	8.79E-02	1.31E-01	7.33	1.79E-02
4b_Copper	Not available	2.30E-01	2.44E+00	2.67E+00	5.60	4.77E-01
4b_Lead	Not available	1.98E+00	2.44E+00	4.42E+00	4.70	9.40E-01
4b_Manganese	Not available	7.54E+00	2.49E+01	3.24E+01	51.50	6.30E-01
4b_Mercury	Not available	4.24E-03	2.52E-02	2.95E-02	0.0017	**1.73E+01**
4b_Methylmercury	Not available	4.24E-03	2.52E-02	2.95E-02	0.0017	**1.73E+01**
4b_Nickel	Not available	1.13E-01	5.32E-01	6.46E-01	1.70	3.80E-01
4b_Selenium	Not available	1.86E-02	2.47E-01	2.66E-01	0.14	**1.86E+00**
4b_Silver	Not available	4.01E-03	1.52E-03	5.53E-03	6.02	9.18E-04
4b_Vanadium	Not available	2.64E-01	1.77E-01	4.41E-01	4.16	1.06E-01
4b_Zinc	Not available	2.90E+00	4.42E+01	4.71E+01	75.40	6.24E-01
4b_TCDD (bird)	Not available	4.72E-08	3.44E-07	3.91E-07	1.00E-06	3.91E-01
4b_TCDD (mammal)	Not available	6.42E-09	5.74E-08	6.39E-08	1.00E-06	6.39E-02
4b_Total DDTs	Not available	8.06E-04	6.48E-02	6.56E-02	0.15	4.46E-01
4b_Total HPAHs	Not available	3.11E-04	8.58E-03	8.90E-03	0.62	1.45E-02
4b_Total LPAHs	Not available	7.78E-05	1.97E-03	2.05E-03	65.60	3.12E-05
4b_Total PCBs	Not available	1.30E-04	7.33E-03	7.46E-03	0.01	8.38E-01
5_Antimony	Not available	2.19E-02	4.44E-02	6.63E-02	0.06	**1.12E+00**
5_Arsenic	Not available	5.19E-02	7.48E-02	1.27E-01	1.04	1.22E-01
5_Barium	Not available	2.55E+00	2.06E+01	2.32E+01	51.80	4.47E-01
5_Beryllium	Not available	6.84E-03	2.77E-03	9.61E-03	0.53	1.81E-02
5_Cadmium	Not available	3.82E-02	6.18E-01	6.56E-01	0.77	8.52E-01
5_Chromium +3	Not available	2.38E-01	2.29E-01	4.67E-01	2.40	1.95E-01
5_Cobalt	Not available	4.57E-02	9.26E-02	1.38E-01	7.33	1.89E-02
5_Copper	Not available	2.11E-01	2.25E+00	2.46E+00	5.60	4.39E-01
5_Lead	Not available	1.37E+00	1.69E+00	3.06E+00	4.70	6.52E-01
5_Manganese	Not available	8.91E+00	2.94E+01	3.83E+01	51.50	7.44E-01
5_Mercury	Not available	2.95E-03	1.77E-02	2.06E-02	0.0017	**1.21E+01**
5_Methylmercury	Not available	2.95E-03	1.77E-02	2.06E-02	0.0017	**1.21E+01**
5_Nickel	Not available	1.18E-01	5.55E-01	6.73E-01	1.70	3.96E-01
5_Selenium	Not available	2.10E-02	2.78E-01	2.99E-01	0.14	**2.09E+00**
5_Silver	Not available	3.65E-03	1.39E-03	5.05E-03	6.02	8.38E-04
5_Vanadium	Not available	2.95E-01	1.97E-01	4.92E-01	4.16	1.18E-01
5_Zinc	Not available	2.95E+00	4.49E+01	4.78E+01	75.40	6.34E-01

Exposure and Risk Calculations for Aquatic-Dependent Wildlife

Receptor = Raccoon

				Diet (%)			
BW	6.900	kg					
FIR-dry	0.173	kg/d-dw					
FIR-wet	0.539	kg/d-ww	Fish	2%	Birds	7%
WIR	0.563	L/d	Amphibians	0%	Mammals	7%
SIR-dry	0.0163	kg/d-dw	Mussels	5%	Reptiles	0%
SIR-wet	0.0507	kg/d-ww	Aq. Inverts	14%	Ter. Inverts	27%
AUF	1.0	Unitless	Aq. Plants	0%	Ter. Plants	38%

	Water Dose (mg/kg-bw-d)	Sediment Dose (mg/kg-bw-d)	Food Dose (mg/kg-bw-d)	Total Dose (mg/kg-bw-d)	Hazard Quotients	
Reach_COI	SW_Max	SD_Max	F_Max	Maximum Conc.	TRV (mg/kg-d)	Max_HQ
5_TCDD (bird)	Not available	1.31E-07	9.26E-07	1.06E-06	1.00E-06	**1.06E+00**
5_TCDD (mammal)	Not available	1.75E-08	1.35E-07	1.52E-07	1.00E-06	1.52E-01
5_Total DDTs	Not available	1.21E-05	9.75E-04	9.87E-04	0.15	6.71E-03
5_Total HPAHs	Not available	2.22E-04	6.11E-03	6.33E-03	0.62	1.03E-02
5_Total LPAHs	Not available	9.20E-05	2.32E-03	2.42E-03	65.60	3.68E-05
5_Total PCBs	Not available	1.89E-05	1.42E-03	1.44E-03	0.01	1.61E-01
6_Antimony	Not available	2.25E-02	4.56E-02	6.81E-02	0.06	**1.15E+00**
6_Arsenic	Not available	3.65E-02	5.32E-02	8.98E-02	1.04	8.63E-02
6_Barium	Not available	2.43E+00	1.97E+01	2.21E+01	51.80	4.26E-01
6_Beryllium	Not available	6.37E-03	2.58E-03	8.94E-03	0.53	1.68E-02
6_Cadmium	Not available	2.92E-02	4.73E-01	5.03E-01	0.77	6.53E-01
6_Chromium +3	Not available	1.86E-01	1.80E-01	3.66E-01	2.40	1.52E-01
6_Cobalt	Not available	4.57E-02	9.26E-02	1.38E-01	7.33	1.89E-02
6_Copper	Not available	2.11E-01	2.24E+00	2.45E+00	5.60	4.38E-01
6_Lead	Not available	1.09E+00	1.34E+00	2.43E+00	4.70	5.16E-01
6_Manganese	Not available	5.40E+00	1.78E+01	2.32E+01	51.50	4.51E-01
6_Mercury	Not available	4.24E-03	2.52E-02	2.95E-02	0.0017	**1.73E+01**
6_Methylmercury	Not available	4.24E-03	2.52E-02	2.95E-02	0.0017	**1.73E+01**
6_Nickel	Not available	9.24E-02	4.35E-01	5.27E-01	1.70	3.10E-01
6_Selenium	Not available	2.03E-02	2.69E-01	2.89E-01	0.14	**2.02E+00**
6_Silver	Not available	4.95E-03	1.86E-03	6.82E-03	6.02	1.13E-03
6_Vanadium	Not available	2.20E-01	1.48E-01	3.68E-01	4.16	8.85E-02
6_Zinc	Not available	2.85E+00	4.35E+01	4.63E+01	75.40	6.14E-01
6_TCDD (bird)	Not available	7.17E-08	5.27E-07	5.99E-07	1.00E-06	5.99E-01
6_TCDD (mammal)	Not available	1.33E-08	1.12E-07	1.26E-07	1.00E-06	1.26E-01
6_Total DDTs	Not available	7.38E-05	5.94E-03	6.01E-03	0.15	4.09E-02
6_Total HPAHs	Not available	1.71E-04	4.72E-03	4.89E-03	0.62	7.96E-03
6_Total LPAHs	Not available	1.04E-04	2.62E-03	2.73E-03	65.60	4.16E-05
6_Total PCBs	Not available	2.24E-05	1.47E-03	1.50E-03	0.01	1.68E-01

Notes:

See Table D-1 for Toxicity Reference Values (TRVs).
See Table D-3 for Exposure Parameters.
See Tables D-5, D-7, D-8, D-11 for Exposure Concentrations.
All calculations conducted with the maximum concentration.
Hazard quotients (HQs) in **Bold** are $\geq$1.0.

APPENDIX $

RI/FS WORK PLAN COMMENTS ADDRESSED IN THE SLERA

Comment Round	TCAI Ref#	EPA Ref #	Document Page Number	Comment Text	Comment Response
WP Round 1 (USEPA 2007a)	35			The Ecological Risk Assessment must follow the EPA Ecological Risk Assessment Guidance for Superfund. The Screening Level Ecological Risk Assessment (SLERA) should use conservative assumptions to answer the question "is there the potential for adverse ecological impacts as a result of exposure to site related contaminants?" There is sufficient data available at the present time to address the SLERA question. The development of the Ecological Risk Assessment Problem Formulation should be a priority and integrated with the development of the CSM. The Ecological Risk Assessment should not be used to evaluate physical stressors.	The RI/FS work plan has been revised to place greater emphasis on EPA Superfund guidance. A SLERA will be prepared independent of the RI/FS work plan and will be based on conservative assumptions applied to existing site data. Problem formulation will be integrated in the development of the CSMs and the ecological risk assessment will focus on potential risks due to chemical stressors.
WP Round 2 (USEPA 2007b)	2.7	1	1-1	- Conduct a Screening Level Ecological Risk Assessment	The draft SLERA will be submitted shortly after the RI/FS work plan.
WP Round 2 (USEPA 2007b)	29	272	1-1	Preliminary Ecological Risk Screening – A more straight forward plan, set of objectives, schedule, and deliverable for conducting this step early in the process is needed.	The screening level ecological risk assessment (SLERA) is being prepared in parallel with the revised RI/FS work plan, and will be modified to address the recommendations of the April 2007 Workshop.
WP Round 2 (USEPA 2007b)	194	259	6-8	According to Section 9, two SLRAs (not "several") are anticipated.	To be more consistent with EPA guidance, one SLERA will be submitted. Subsequent refinements will be performed during the BERA. Text in Sections 6 and 9 will be corrected.
WP Round 2 (USEPA 2007b)	203	262	7-3	It is unclear that multiple SLERAs are needed nor that there is much utility in conducting more than one SLERA. The SLERA conducted using the currently available data (which is quite extensive) will identify receptors, contaminants, and areas that are clearly at no risk. Receptors, contaminants, and areas that fail the screen are then subject to DQOs, development of focused studies, and then follow-up higher tier risk evaluations.	To clarify, one SLERA will be submitted. Text will be corrected. Refinements to problem formulation and CSMs will be made as new information is gathered.
WP Round 2 (USEPA 2007b)	263	298	9-1	Ecological Risk Assessment - The Ecological Risk Assessment should closely follow the EPA Ecological Risk Assessment Guidance for Superfund. The Screening Level Ecological Risk Assessment (SLERA) should use conservative assumptions to answer the question "is there the potential for adverse ecological impacts as a result of exposure to site related contaminants." There is sufficient data available at the present time to address the SLERA question. The development of the Ecological Risk Assessment Problem Formulation should be a priority and integrated with the development of the CSM. The Ecological Risk Assessment should not be used to evaluate physical stressors.	A SLERA will be prepared independent of the RI/FS work plan and will be based on conservative assumptions applied to existing site data. Problem formulation will be integrated in the development of the CSMs and the ecological risk assessment.
WP Round 2 (USEPA 2007b)	302	309	9-12	The text does not provide an indication of how the effects of whole sediment exposure to organics will be addressed. The approach should consider the draft Washington State Freshwater Sediment Quality Values or an equivalent.	The referenced sediment quality values will be considered in the SLERA.
WP Round 2 (USEPA 2007b)	306	310	9-12	In what document will this be presented? This must be reviewed and approved before any toxicity thresholds are selected, even for screening purposes. This is another example of how a detailed road map is needed.	The selection of toxicity thresholds will occur in the SLERA and BERA work plan, with input from EPA.
WP Round 2 (USEPA 2007b)	354	64		Table 5-26 - Note that Table 5-26 indicates the chronic AWQC for aluminum to be 87 ug/L. The table displays bold entries for samples having a porewater Al concentration less than 87 ug/L. Note also previous comments regarding the applicability of using AWQC comparisons on sediment porewater samples collected as part of the EPA 2005 Phase I investigation that were not intended to be indicative or representative of in situ porewater conditions in the UCR. Same comment applies to Table 5-26.	Comparisons to AWQC are being eliminated from the RI/FS work plan. This comment will be addressed in the SLERA.
WP Round 3 (USEPA 2007c)	146	A115		Figure 9-2 General Framework for Conducting the ERA within the UCR RI/FS – Based on Figure 7-2, there seems to be an extensive amount of field data collection prior to the completion of the screening-level risk assessment.	The SLERA will be conducted using existing information for the UCR and will be submitted to EPA after the work plan is finalized. Based on the results of the April 2007 Workshop and January 2008 Workshop, the SLERA will address surface water, porewater, soil, sediments, and aquatic dependent wildlife.

Notes:

USEPA. 2007a. Round 1 comments on Teck Cominco draft RI/FS work plan dated December 27, 2006, Upper Columbia River RI/FS. Comments dated February 16, 2007. U.S. Environmental Protection Agency, Washington, DC.

USEPA. 2007b. Round 2 comments on Teck Cominco draft RI/FS work plan dated December 27, 2006, Upper Columbia River RI/FS. Comments dated April 11, 2007. U.S. Environmental Protection Agency, Washington, DC.

USEPA. 2007c. Round 3 comments on Teck Cominco draft RI/FS work plan dated December 27, 2006, Upper Columbia River RI/FS. Comments dated June 14, 2007. U.S. Environmental Protection Agency, Washington, DC.

* Document page number refers to page numbers in the December 2006 Draft UCR RI/FS Work Plan (TCAI 2006. Draft Work Plan for the Remedial Investigation and Feasibility Study. Teck Cominco American Incorporated, Spokane, WA).