

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

Project Name	<u>TOWN BRANCH</u>	ProjectID: 04-03
Last Updated:	08/29/02	
City:	Russellville	
County:	Logan	
State:	KY	
Country:	USA	
Bodies of Water:	Town Branch; Mud River	
US EPA Region:	IV	
Status (Active, Complete, or Monitoring Only):	Active	
Date On NPL:	N/A	
ROD/ESD Date:	N/A	
Operable Unit:	N/A	
Areas of Concern (length or acres):	3.5 mile sector of the Town Branch; Town Branch flows into the Mud River, which, after 65 river miles, discharges into the Green River.	
Other Characteristics of Water Body:	1-10 cfs (normal flow), nominally 15-30' wide, precipitation event-driven flows (up to 400 cfs), erosive creek, limestone creek bottom, minimal sediment.	
Contaminants of Concern:	PCBs (1248)	
Source of Contamination:	Primarily hydraulic fluids from an aluminum die casting facility.	
Contaminated Area	Creek sediments, banks, and floodplain soils. Town Branch flows past the Rockwell property and after 3.5 miles, flows into the Mud River, which, in turn, after 65 river miles, flows into the Green River.	
Physical Characteristics:		
Type of Regulatory Action:	Franklin Circuit Court Judgment. Final.	
Overall Status Summary:	<p>Remedial activities at this site were initially governed by agreed orders between Rockwell International and the Kentucky Natural Resources and Environmental Protection Cabinet (KY NREPC) which included PCB cleanup for Town Branch and Mud River. As part of a third party matter, the court asked for and KY NREPC defined cleanup levels to be applied to Town Branch. Trial was conducted in Franklin Circuit Court, Frankfort, KY in January 1996. The court ruled in favor of KY NREPC in March 1997 and ordered further source control at the plant site, cleanup of 3.5 miles of Town Branch and floodplains to 0.1 ppm PCBs (or alternative floodplain levels based on property usage), and characterization of the Mud River followed by remediation of "hot spots" in the Mud River. In January 2000 the Kentucky Court of Appeals overturned a decision made three and one-half years earlier that required Rockwell to compensate 75 landowners an amount in excess of \$217 million as a result of PCB-contaminated floodplain soils found on their respective properties. The decision was reversed based on "unsupported testimony." Appeals of the case have continued into 2002.</p> <p>Cleanup of the first one-mile section of Town Branch and floodplains was completed in 1997/1998 as Phase I of the project. This resulted in removal and disposal (at commercial landfills) of 93,000 cy of combined floodplain soils and creek banks and sediment. Design and third-party property access issues required resolution prior to implementing additional remediation for the remaining 2.5 miles of Town Branch. The Court ended up ordering certain property owners to provide access for the second phase of remediation; the amount of compensation was negotiated separately or is subject to separate hearings with a special master commissioner.</p>	

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Phase II of the Town Branch cleanup encompassed 5,900 linear feet (1.1 mile) of creek bed and began in August 1999, with mobilization starting in July 1999 and was completed in August 2000 except for final restoration (e.g., planting of trees), which was completed in 2001.

Phase III encompassed the remaining targeted 7,100 linear feet (1.3 miles) of Town Branch to its confluence with the Mud River. The Phase III removal began in late August 2000 and was completed in December 2000. Final restoration was completed in 2001.

For all three phases, a total of approximately 239,000 cy (sediment, bank soil, and floodplain soil) was removed and disposed at offsite commercial TSCA and non-TSCA landfills. This included about 76,000 cy of sediment and bank soil and 163,000 cy of floodplain soils. Only 8% by weight of the material disposed was TSCA material.

A report was submitted in December 2000 by the design consultant summarizing past characterization efforts in the Mud River along with recommendations for further characterization studies in the river. Access for further sampling was obtained in Summer 2001 with sampling efforts completed in Fall 2001. A report summarizing all data collection in the Mud River and proposed activities to complete remediation as required in the March 1997 Judgment was submitted to KY NREPC in July 2002.

Remedial Action Planned: ☒

Risk Assessment: ☒

Remedial Action Implemented: ☒

Status of Dredging ☐

PRPs: ☒

Contacts: ☒

References: ☒

Modeling: ☒

Fishing Advisory: ☒

Key Conditions: commercial landfill, floodplains targeted, habitat/streambank restoration, post monitoring, property access issues, solidification / stabilization, wetlands

REMEDIAL ACTION PLANNED

Project Name	<u>TOWN BRANCH</u>	ProjectID: 04-03
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Target Sediment Cleanup Standards (TSCS):	0.1 ppm PCBs or to extent practicable in Town Branch.	
How TSCS Established:	Circuit Court Judgment - based in part on KY NREPC observation that fish with > 2 ppm PCBs co-existed where sediment is > 0.1 ppm PCBs.	
Target Bank and Floodplain Cleanup Levels (if applicable):	Bank soils: 0.1 ppm PCBs Floodplain soils: 0.1 ppm residential, 1.0 ppm commercial and agricultural (other options include 10 ppm, 25 ppm, and 50 ppm available with engineering and institutional controls)	
Other Target:	Water column PCB level at 1.4 ppt (aquatic), 0.079 ppt (human health)	
Environmental Sample Data References:	<ul style="list-style-type: none">• Sediment:• Water:• Fish:	
Estimated Target Volume:	290,000 cy (floodplain soil and sediment) (From March 1997 court order for Rockwell to implement source control and cleanup activities in Town Branch and floodplains)	
Planned Disposal Method:	Commercial landfills.	
Estimated Calendar Time to Implement Remedy:	Rockwell was ordered by the circuit court in March 1997 to implement source control and cleanup activities in Town Branch and floodplains.	
Estimated Time to Implement Remedy:	5.5 years (court testimony)	
Estimated Cost to Implement Remedy:	\$55 million (court testimony)	
Stated Remedial Action Objectives (and Source):	Sediment deposits must be removed from Town Branch to the maximum extent practicable, to meet a cleanup standard of 0.1 ppm PCBs. Remediation must include low and high bank soils that are capable of eroding into the stream. Soils subject to flooding along Town Branch must be remediated to meet a cleanup standard of 0.1 ppm PCBs or impose institutional controls to meet Kentucky's alternative standards (source - Franklin Circuit Court Judgment, dated 3/24/97). Also characterization of Mud River, downstream of Town Branch, followed by remediation of "hot spots" in the Mud River.	
Measures of Success to be Used:	Verification sampling: <ul style="list-style-type: none">• Floodplain soils: 0.1 ppm residential, 1.0 ppm commercial and agricultural (other options include 10 ppm, 25 ppm and 50 ppm available with engineering and institutional controls).• Sediment: Removal of all to the extent practicable.• Water quality monitoring for creek water (i.e., 1.4 ppt PCB target level).	
Planned Monitoring and Restoration:	Monitoring - caged and resident fish before and after cleanup complete; water column monitoring before, during, and after.	

REMEDIAL ACTION PLANNED

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**Agency Position on Sediment
Removal (and Source):**

Restoration - backfill banks/floodplain and revegetate; plant trees at top of bank. Re-establish in-stream structures (pools/riffles) in creek. Restore wetlands.

Source: Reference A-273 (Circuit Court Judgment)

"SEDIMENT CLEAN-UP STANDARDS: In 1987 the Cabinet (i.e., KY NREPC) approved Rockwell's remedial action plan for Town Branch, which provided for excavation of sediment. In 1988 the Cabinet advised Rockwell that clean-up of Town Branch sediments should begin as soon as possible, to prevent contamination further downstream. The Cabinet also advised that clean-up of Town Branch sediments was necessary for waters of Town Branch to meet the ambient water quality standard of 0.0014 ppb PCBs."

"The cabinet established a clean-up standard of 0.1 ppm PCBs for soil and sediments. Thus, the contaminated soil must be removed such that the remaining PCB level is 0.1 ppm or less. The Cabinet noted that more than one effort might be necessary to assure compliance with clean-up standards. This standard was based on human health and ecological considerations."

"The Cabinet compared the data on the concentration of PCBs in sediments along Town Branch and Mud River to the concentration to PCBs in fish. The Food and Drug Administration has established a 2.0 ppm marketplace standard for fish. Store bought fish containing more than 2.0 ppm must be removed from shelves. The Cabinet found that where the Town Branch and Mud River soil was contaminated at a 0.1 ppm level or greater, the fish contained a level of PCBs greater than 2.0 ppm. The Cabinet found these data adequate to correlate acceptable fish and sediment concentrations."

"Second, the Cabinet evaluated the scientific literature on PCBs in sediments and resulting toxicity to aquatic organisms, and found that concentrations greater than 0.1 ppm PCBs in sediments caused toxic effects in aquatic species. The Cabinet's conclusions on the toxicity of sediments to aquatic species were supported by the laboratory testing conducted by Dr. Westerman."

"FLOODPLAIN SOIL CLEAN-UP STANDARDS: In May 1991 the Cabinet established clean-up standards for floodplain soils, those soils likely to be contaminated with PCBs. The Cabinet calculated a clean-up standard for floodplain soils of 0.1 ppm PCBs. The standard was derived from the Cabinet's site-specific risk assessment, which is required by Kentucky's Superfund program. A risk assessment is designed to characterize the risk from exposure to a toxin."

"Risk assessments have four components: Hazard identification, toxicity assessment, exposure assessment, and risk characterization. The EPA and the Cabinet follow the same risk assessment approach. In essence, risk is a function of exposure and toxicity. The Cabinet's risk assessment was scientifically valid and supported by the evidence at trial."

"The Cabinet set the de minimis cancer risk in its assessment at one in one million (10⁻⁶), and the non-cancer risk at a hazard index of 1.0. The 10⁻⁶ cancer risk level used by the Cabinet as de minimis was selected as being consistent with the Cabinet's other programs involving the assessment of cancer risk, such as those regulating petroleum storage tanks and protecting water quality. It was also consistent with the de minimis cancer risk that the Cabinet has used at other state Superfund sites. The 10⁻⁶ cancer risk is also consistent with the range of risks the EPA applies to state programs, either 10⁻⁴ to 10⁻⁶, or 10⁻⁵ to 10⁻⁷."

"At about the same time, the EPA published a guidance document on the clean-up of Superfund

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sites contaminated with PCBs. The document was published in 1990; the Cabinet received it after its own risk assessment was completed. Using a de minimis cancer risk level of 10⁻⁵, (ten times less protective than that set by the Cabinet), EPA calculated a clean-up standard for PCBs in soils of 1.0 ppm. Since the Cabinet selected a de minimis risk level of 10⁻⁶, the corresponding clean-up standard for soils using EPA's formula would be 0.1 ppm. Thus, the Cabinet's risk assessment calculations mirrored those conducted by EPA at the national level."

"The Cabinet's risk assessment calculated the concentration of PCBs in floodplain soils that would not increase cancer risk above 10⁻⁶. However, since PCBs were found at higher concentrations, clean-up under Superfund was required."

"The Cabinet's risk assessment-based clean-up standard of 0.1 ppm for floodplain soils would allow unrestricted use; that is, property cleaned to that level could be used in residential, commercial, industrial, and agricultural development, because the cancer risk from exposure to PCBs in flood plain soils would be less than 10⁻⁶. In 1991, after a series of meetings, Rockwell and the Cabinet agreed upon a "quilt-map approach" to remediation, in which the risk assessment-based standard of 0.1 ppm for floodplain soils could be replaced with higher numerical standards if institutional controls (such as caps and restrictions in land use) were imposed and enforced."

"In setting the standards for floodplain soil, the Cabinet required the depth of remediation to be adequate to prevent groundwater contamination. The horizontal extent of remediation should encompass all contaminated sediments, low and high banks subject to erosion, and floodplain soils. The linear extent of remediation (the length of remediation downstream) was to be undertaken in phases, with Town Branch from East Ditch to the Russellville POTW to be undertaken immediately (fall 1995), the remainder of Town Branch to be completed thereafter, and Mud River to follow."

"The range of clean-up standards offered by the Cabinet for PCBs in floodplain soils, and the requirement for institutional controls to support clean-up standards higher than 0.1 ppm PCBs, is supported by the evidence."

RISK ASSESSMENT

<i>Project Name</i>	<u>TOWN BRANCH</u>	<i>ProjectID:</i> 04-03
<i>Last Updated:</i>	03/15/02	
<i>RA Type:</i>	Human Health Baseline	
<i>RA Status:</i>	Complete	
<i>RA Objectives:</i>	To quantify potential human health (and some ecological) risks associated with observed chemical concentrations in floodplain soils. Determine baseline risks and support development of cleanup plans.	
<i>Company Performing RA:</i>	Blasland, Bouck & Lee, Inc. (on behalf of Rockwell)	
<i>RA Reference Report:</i>	Baseline Risk Assessment, Town Branch, Russellville, Kentucky (Reference A-277).	
<i>RA Summary and Conclusions:</i>	Most current risk assessment (June 1995) concluded current potential risks associated with Town Branch floodplain soils are below those which would require remediation under the Superfund Program (10E-4). However, since some potential risks were greater than the Commonwealth of Kentucky preferences (10E-6), floodplain soil cleanup levels of 10, 25, and 50 ppm PCBs (residential, agricultural, and commercial properties, respectively) were recommended.	

REMEDIAL ACTION IMPLEMENTED

Project Name:	<u>TOWN BRANCH</u>	ProjectID: 04-03
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Physical Target:	Phase I: One mile of Town Branch and floodplains; Phase II: 5,900 linear feet (1.1 mile) of creek bed; and Phase III: 7,100 linear feet (1.3 miles) of creek bed.	
Goals:	Sediment cleanup to 0.1 ppm PCBs or to extent practicable; soil to 0.1 ppm PCBs residential, 1.0 ppm PCBs commercial (or 10 ppm with cap), or 1.0 ppm agricultural (or 10, 25, or 50 ppm with fencing or restricted use or other institutional controls).	
Primary Contractor:	BBL Environmental Services, Inc. (BBLES)	
Other Contractors:	Sevenson Environmental; local contractors	
Generic Remediation Method:	Dry excavation	
Equipment:	Dams with bypass pumping of creek flow to dry out target areas; excavators to remove sediment and bank soils followed by powerwashing creek bottom, Godwin Dri-Prime Pumps, excavators (with articulated bucket), powerwashers, vacuum truck. Reportedly, 9,300 gpm of creek flow was bypassed through an 18-inch diameter pipe using three 10 x 10 Godwin pumps.	
Material Handling:	Stabilization with lime as needed, then load trucks and transport/dispose at commercial landfills	
Volume Removed:	Approximately 239,000 cy (sediment, bank soil, and floodplain soil); this included about 76,000 cy of sediment and bank soil and 163,000 cy of floodplain soils.	
Calendar Time:	June 1997 through February 1998 (Phase I); July 1999 through August 2000 (Phase II); August through December 2000 (Phase III).	
Time To Implement:	Phase I: 9 months to remediate one-mile section of Town Branch and floodplains; Phase II: 12 months; and Phase III: 5 months	
Total Cost:	\$25 million (minimum); actual total cost not available	
Dredging Cost:	N/A	
Disposal of Sediment:	TSCA sediment and soil (> 50 ppm) to Emelle, Alabama and non-TSCA sediment and soil (< 50 ppm) to local solid waste landfill.	
	Volumes for each Phase are:	
	Phase I: TSCA - 19,215 tons non-TSCA - 116,980 tons	
	Phase II: TSCA - 10,300 tons non-TSCA - 162,900 tons	
	Phase III: TSCA - 50 tons non-TSCA - 58,700 tons	
Volume of Water:	500,000 gallons (Phase I)	
Method of Water Treatment:	Primary settling, sand filtration, bag filtration, granular activated carbon	
Water Discharge Limit:	0.2 ppb PCBs - discharged to POTW	

REMEDIAL ACTION IMPLEMENTED

Project Name:	<u>TOWN BRANCH</u>	ProjectID: 04-03
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Air Monitoring During Remediation:	Dust monitoring as necessary	
Water Monitoring During Remediation:	Daily sampling upstream and downstream of removal operations (PCB and TSS)	
Outcome:	Approximately 239,000 cy (sediment, bank soil, and floodplain soil) were removed from 3.5 miles of Town Branch and disposed at offsite commercial landfills. Soil PCB target levels (confirmed by verification sampling) were achieved to the extent practicable; water column PCB levels continue to be detected above 1.4 ppt.	
Restoration and Post-Monitoring:	Soil cleanup levels were achieved; sediment was removed to the extent practicable; water column data will continue to be collected. Post-remediation biota data collection is pending. Restoration included placement of backfill in excavated floodplains; surface restoration including erosion control on banks (rip-rap, vegetation, and gradual slopes); planting of trees at top of banks; and wetland restoration.	
Site-Specific Difficulties:	Fractured bedrock and irregular surfaces precluded complete sediment removal; utilities/structures interfered with soil and sediment removal in some instances and locations. Third party access was costly and time consuming to negotiate. Extensive rain slowed progress during Phase I.	
Monitoring Data References:	<ul style="list-style-type: none">• <i>Sediment</i>• <i>Water:</i>• <i>Fish:</i>	

POTENTIALLY RESPONSIBLE PARTIES

Project Name **TOWN BRANCH**

ProjectID: 04-03

PRP Name: PRP INFORMATION NOT RELEASED

PRPID:

Street Address:

City:

State:

KEY CONTACTS

Project Name **TOWN BRANCH**

ProjectID: 04-03

Last Name: KEY CONTACT INFORMATION NOT RELEASED

Contact ID:

First Name:

Title:

Company:

Address:

City:

State:

Postal Code:

Work Phone # :

Other Phone #:

Fax # :

Email Address:

REFERENCES

Project Name TOWN BRANCH

ProjectID: 04-03

Reference Type: A

ReferenceID: 273

Title: *Franklin Circuit Court Civil Action No. 86-CI-1566 Division II*

Location: AEM

Category: Legal

Prepared by/Author: William L. Graham, Judge

**Preparer/Author
Address:** Franklin Circuit Court

Prepared For: Litigants and General Public

Date Published: March 24, 1997, Entered

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 274

Title: *Town Branch Creek, Logan County, Kentucky Soil/Sediment
Remedial Design*

Location: BBL

Category: Remedial Design

Prepared by/Author: Blasland, Bouck & Lee, Inc.

**Preparer/Author
Address:** 6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Prepared For: Rockwell International Corporation

Date Published: May 1997

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 276

Title: *Technical Report of Sampling/Study Plan*

Location: BBL

Category: Contaminated Sediments: Investigation/Delineation

Prepared by/Author: Haztech, Inc. (also, Dr. Nick Crawford and Research Planning Institute, Inc.)

**Preparer/Author
Address:**

Prepared For: Rockwell International Corporation

Date Published: October 1, 1986

**Key Words and
Phrases:**

REFERENCES

Project Name TOWN BRANCH

ProjectID: 04-03

Reference Type: A

ReferenceID: 277

Title: *Baseline Risk Assessment, Town Branch, Russellville Kentucky*

Location: BBL

Category: Risk Assessment

Prepared by/Author: Blasland, Bouck & Lee, Inc.

Preparer/Author Address: 6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Prepared For: Rockwell International Corporation

Date Published: June 1995

Key Words and Phrases:

Reference Type: A

ReferenceID: 580

Title: *Judiciary Opinion: Cross-Appeal from Logan Circuit Court - Civil Action No. 93-CI-000158*

Location: AEM

Category: Legal

Prepared by/Author: Judges: Huddleston, Knopf, and Knox

Preparer/Author Address:

Prepared For: Commonwealth of Kentucky Court of Appeals

Date Published: January 14, 2000 (rendered)

Key Words and Phrases:

Reference Type: A

ReferenceID: 789

Title: *Documentation Report: Phase I, Town Branch Creek Remediation Activities*

Location: BBL

Category: Contaminated Sediments: Remediation Final Report

Prepared by/Author: Blasland, Bouck and Lee, Inc.

Preparer/Author Address: 6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Prepared For: Rockwell International Corporation

Date Published: January 1999

Key Words and Phrases:

REFERENCES

Project Name TOWN BRANCH

ProjectID: 04-03

Reference Type: C

ReferenceID: 622

Title: *Expert testimony springs leak*

Location: AEM

Category: Site Update

Prepared by/Author: Elizabeth Amon

Preparer/Author

Address:

Prepared For: The National Law Journal

Date Published: February 7, 2000

**Key Words and
Phrases:**

Reference Type: D

ReferenceID: 155

Title: *Court overturns Rockwell award*

Location: AEM

Category: Site Update

Prepared by/Author: Jim Turner

Preparer/Author

Address:

Prepared For: News Democrat & Leader

Date Published: January 18, 2000

**Key Words and
Phrases:**

REFERENCES

Project Name TOWN BRANCH

ProjectID: 04-03

Reference Type: E

ReferenceID: 29

Title: ***Remediation and Third Party Litigation - Town Branch Creek
Russellville, Kentucky***

Location: AEM

Category: Legal

Prepared by/Author: (1) J. Paul Doody and (2) J. Anthony Goebel

Preparer/Author (1) Blasland, Bouck and Lee, Inc.

Address: 6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214
(2) Wyatt, Tarrant & Combs
Citizens Plaza, 25th Floor
500 West Jefferson Street
Louisville, KY 40202

Prepared For: Sediment Management Seminar (New Orleans)

Date Published: February 9 - 10, 1998

**Key Words and
Phrases:**

Reference Type: E

ReferenceID: 141

Title: ***Sediment Management Seminar February 9-10, 1998
Proceedings (Reference E-137)***

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: Blasland, Bouck & Lee, Inc.

Preparer/Author 6723 Towpath Road

Address: P.O. Box 66
Syracuse, NY 13214

Prepared For: Attendees

Date Published: February 9-10, 1998

**Key Words and
Phrases:**

REFERENCES

Project Name TOWN BRANCH

ProjectID: 04-03

Reference Type: L

ReferenceID: 83

Title: *Memo re: Precedent for Extended Sediment Remediation in Rivers and Streams*

Location: AEM

Category: Contaminated Sediments: Overview of Issues

Prepared by/Author: AEM, Inc.

Preparer/Author Address: Malvern, PA 19355

Prepared For: Distribution

Date Published: August 15, 2000

Key Words and Phrases:

Reference Type: N

ReferenceID: 3

Title: *Meeting Minutes from Meeting with Rockwell & KDEP (1997/1998)*

Location: BBL

Category: Meeting Minutes

Prepared by/Author: Blasland, Bouck & Lee, Inc.

Preparer/Author Address: 6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Prepared For: Rockwell International Corporation

Date Published: May 1997/1998

Key Words and Phrases:

Reference Type: R

ReferenceID: 12

Title: *Letter to PRP re: Case Histories: Contaminated Sediment Sites (with response from BBL on behalf of Rockwell)*

Location: AEM

Category: Site Update

Prepared by/Author: AEM, Inc.

Preparer/Author Address: Malvern, PA 19355

Prepared For: Rockwell International Corporation (submitted to)

Date Published: August 14, 1998

Key Words and Phrases:

REFERENCES

Project Name **TOWN BRANCH**

ProjectID: 04-03

Reference Type: S

ReferenceID: 14

Title: ***MEMORANDUM IN SUPPORT OF CABINET'S MOTION FOR CLARIFICATION OF JUDGMENT WITH RESPECT TO SUPERFUND CLEANUP LEVELS FOR FLOODPLAIN SOILS AND SEDIMENTS ALONG MUD RIVER***

Location: AEM

Category: Legal

Prepared by/Author: The Plaintiff, the Commonwealth of Kentucky Natural Resources, and the Environmental Protection Cabinet

Preparer/Author

Address:

Prepared For: Franklin Circuit Court, Civil Action No. 86-CI-1566, Division II

Date Published: September 1, 2000

Key Words and Phrases:

MODELING

Project Name: TOWN BRANCH

ProjectID: 04-03

Last Updated: 03/15/02

Modeling Performed: Sediment transport model

Modeling Objectives: The main objective of the sediment transport model was to predict the long-term fate of PCBs in Town Branch by analysis of rates at which sediment-sorbed PCBs are transported within the system.

Modeling Description: This empirical model incorporated the use of lumped parameters to estimate PCB removal rates in the Town Branch under various scenarios. The lumped parameters included (1) a resuspension factor, (2) a sediment removal factor, and (3) a redistribution profile over a given distance downstream. The parametric analysis was limited to 3 variations of the resuspension factor for 2 different cases: one case where PCBs were removed only by natural processes and a second case where the most heavily contaminated areas of Town Branch were cleaned to a level of 10 ppm PCBs in the sediment.

Company Performing Modeling: Haztech, Inc.

Modeling Status: Modeling completed in 1986

Modeling Summary: The model operated under the assumption that sediments will be transported in response to significant rainfall events occurring at a rate of 5-10 times per year. For model runs based on natural processes only, results predicted that a diminishing peak PCB sediment concentration moves through the Town Branch, and after 100 events (10 to 20 years), all PCBs in Town Branch will not have been completely discharged to the Mud River. In comparison, if the sediments are remediated to 10 ppm, the model predicts that the PCB concentrations steadily decline at all stations and are well below 10 ppm after 30 events. Additionally, under this remediation scenario, PCB loading to the Mud River (both initially and after 50 events) would be decreased by a factor of 5.

FISH ADVISORIES

Project Name **TOWN BRANCH**

ProjectID: 04-03

Advisory: Mud River ***AdvisoryID:*** 894
Extent: From Mouth to Hancock Lake Dam (Logan, Butler, Muhlenberg Counties)
Pollutant: PCBs (total)
Species: all bottomfish
Population: NCGP
Population Definition: No Consumption-General Population: Advise against consumption by the general population.

Advisory Type: River ***Advisory Number:*** 158

Status (Active or Rescinded): Active ***Date Rescinded:***

Contact Name: Michael R. Mills ***Contact Number:*** 502-564-3410

Advisory: Mud River ***AdvisoryID:*** 895
Extent: From Mouth to Hancock Lake Dam (Logan, Butler, Muhlenberg Counties)
Pollutant: PCBs (total)
Species: all fish
Population: NCSP
Population Definition: No Consumption-Subpopulation(s): Advises against consumption for populations that are potentially at greater risk, e.g., pregnant or nursing women, and small children.

Advisory Type: River ***Advisory Number:*** 158

Status (Active or Rescinded): Active ***Date Rescinded:***

Contact Name: Michael R. Mills ***Contact Number:*** 502-564-3410

Advisory: Mud River ***AdvisoryID:*** 896
Extent: From Mouth to Hancock Lake Dam (Logan, Butler, Muhlenberg Counties)
Pollutant: PCBs (total)
Species: all sportfish
Population: RGP
Population Definition: Restricted Consumption-General Population: Advises the general population to restrict the size of the organisms and/or the frequency of meals consumed.

Advisory Type: River ***Advisory Number:*** 158

Status (Active or Rescinded): Active ***Date Rescinded:***

Contact Name: Michael R. Mills ***Contact Number:*** 502-564-3410

FISH ADVISORIES

Project Name **TOWN BRANCH**

ProjectID: 04-03

Advisory: Town Branch, Logan County

AdvisoryID: 125

Extent: Entire Stream

Pollutant: PCBs (total)

Species: all fish

Population: NCGP

Population Definition: No Consumption-General Population: Advise against consumption by the general population.

Advisory Type: River

Advisory Number: 104033

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Michael R. Mills

Contact Number: 502-564-3410
