

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

Project Name	<u>PETTIT CREEK FLUME</u>	ProjectID: 02-10
Last Updated:	04/22/99	
City:	North Tonawanda	
County:	Niagara	
State:	NY	
Country:	USA	
Bodies of Water:	Durez Inlet (Cove); Little Niagara River	
US EPA Region:	II	
Status (Active, Complete, or Monitoring Only):	Complete	
Date On NPL:	N/A	
ROD/ESD Date:	N/A	
Operable Unit:	NA	
Areas of Concern (length or acres):	One acre cove in the Durez Inlet of the Little Niagara River.	
Other Characteristics of Water Body:		
Contaminants of Concern:	DNAPLs (VOCs and semi-volatiles)	
Source of Contamination:	In part, discharges from a plant that manufactured phenolic plastic resin compounds. Operations ceased in 1996.	
Contaminated Area	Nearshore cove in river.	
Physical Characteristics:		
Type of Regulatory Action:	NYS Consent Order	
Overall Status Summary:	After diversion of the Pettit Creek Flume Storm Sewer, diver-assisted removal of 2,000 cy of DNAPL-contaminated sediments was performed in 1993-1994 from a one-acre nearshore cove in the Little Niagara River. The great majority of the material is stored onsite pending a disposal decision. The cove is reportedly partially refilled, replanted, and restored. No cost data. Lawsuit between PRP and first contractor (OHM).	
Remedial Action Planned:	<input type="checkbox"/>	
Risk Assessment:	<input type="checkbox"/>	
Remedial Action Implemented:	<input checked="" type="checkbox"/>	
Status of Dredging	<input type="checkbox"/>	
PRPs:	<input checked="" type="checkbox"/>	
Contacts:	<input checked="" type="checkbox"/>	
References:	<input checked="" type="checkbox"/>	
Modeling:	<input type="checkbox"/>	
Fishing Advisory:	<input type="checkbox"/>	
Key Conditions:	Great Lakes AOC	

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

Project Name ***PETTIT CREEK FLUME***

ProjectID: 02-10

Last Updated: 04/22/99

REMEDIAL ACTION IMPLEMENTED

Project Name:	<u>PETTIT CREEK FLUME</u>	ProjectID: 02-10
Last Updated:	04/22/99	
Physical Target:	River sediments, visually contaminated with DNAPL.	
Goals:	Remove all visual evidence of DNAPL within the dredge work area.	
Primary Contractor:	OHM Remedial Services; Severson Environmental Services; IMC, Inc. (dive contractor); Oceaneering Technologies, Inc. (second dive contractor).	
Other Contractors:	Rust Environment & Infrastructure (consultant to PRP); Gordon Marine (technical consultant and equipment supplier); Buffalo Industrial Diving Co. (verification of dredging coverage).	
Generic Remediation Method:	Diver-assisted dredging	
Equipment:	<p>Per Reference A-429: "A sheetpile silt control wall and silt control curtain were installed prior to the start of dredging activities. The silt control wall was constructed with interlocking sheet piles and ran parallel to the Cove cofferdam near the east bank of the Little Niagara River. River bottom sediments were removed from between the silt control wall and Cove cofferdam."</p> <p>"The first dive contractor, IMC, Inc., used a 6-inch submersible pump, 4-inch flexible intake hose with a 2-inch screened dredge head, and 6-inch discharge hose to pump material to the on-shore facilities. A 6-inch booster pump was used on-shore to increase flow of material to the Treatment Building. In order to expedite progress, the contractor later switched to a 6-inch suction hose and submersible large debris container (LDC) to separate coarse sediment from the pumped slurry."</p> <p>"The second dive contractor, Oceaneering Technologies, Inc., used a 4-inch submersible pump, 6-inch flexible intake hose with a 6-inch open dredge head, and 6-inch discharge hose to pump material to the facilities on-shore. A 6-inch booster pump was used to increase the flow rate to the Treatment Building. Oceaneering also used submerged LDCs to drop out coarse sediment. The LDCs were cylindrical with dimensions of approximately 8 feet high and 6 feet in diameter. Three separate LDCs were used alternately and each was estimated to hold approximately 10 cubic yards of material. Flow rates through the LDCs varied between 500-700 gpm but averaged around 670 gpm during most of the dredge operations."</p>	
Material Handling:	<p>Per reference A-429: "Dredge operations were conducted from the dive barge within the Dredge Work Area (DWA). The DWA was broken into approximately 540, 10 ft by 10 ft. grids in order to facilitate control of dredging operations. The diving contractors (IMC and Oceaneering) used prefabricated 10 feet by 10 feet metal square frames constructed of 1-inch square metal tubing to delineate the grid cells. Initial grid cells were lined up to existing structural references such as the sheet pile wall, H-piles, or boundary cable, then the additional grids were lined up. The grid cells were then dredged. After the diver had removed the material to the target depth, the diver collected a sample from the cell for inspection on the barge. A covered two-gallon steel bucket was lowered to the diver, who used the attached steel scoop to collect a composite sediment sample from the cleaned grid. The sample was lifted to the barge and visually inspected for the presence of DNAPL."</p> <p>"In general, dredge operations first removed the debris manually, then the upper 6-12 inches of River Sediment using the suction dredge. After the first pass of dredging the grid cell was sampled. Depending upon sample results and visual observations, the diver moved to the next grid cell, or removed additional River Sediment, if necessary, until the sample passed the visual examination. Grids typically required removal of between one-half and several feet of River Sediment."</p> <p>"River Sediment texture varied throughout the work area from soft sediment-like material near the</p>	

REMEDIAL ACTION IMPLEMENTED

Project Name:	<u>PETTIT CREEK FLUME</u>	ProjectID: 02-10
Last Updated:	04/22/99	
	Cove to clay, silt, sand, and gravel. Cobbles and debris were also present. Grids abutting the shoreline were found to contain more debris than grids farther off-shore. Specially constructed one cubic yard metal containers with grate bottoms were used to collect and remove large debris from the bottom. Debris was transported to the Cove, where it was staged for proper disposal."	
Volume Removed:	2,000 cy	
Calendar Time:	August 25, 1993 to April 28, 1995	
Time To Implement:	Dredging operations: December 8, 1993 to July 18, 1994	
Total Cost:	Not identified	
Dredging Cost:		
Disposal of Sediment:	1840 cy was processed and placed in super sacks; 160 cy was disposed at CWM's commercial landfill in Model City, NY.	
Volume of Water:		
Method of Water Treatment:	Not identified	
Water Discharge Limit:		
Air Monitoring During Remediation:		
Water Monitoring During Remediation:	24-hour continuous monitoring upstream and downstream using an OBS-3 Suspended Solids and Turbidity Monitoring System; no exceedances were measured.	
Outcome:	Five final sediment samples were collected at the completion of dredging, for information, as reported in Reference A-429. TRPH ranged from 210 to 1100 ppm. Elevated semi-volatiles included, but were not limited to, benzo(b)fluoranthene at 0.1 - 2.3 ppm, fluoranthene at 0.1 - 2.6 ppm, and pyrene at ND - 2.3 ppm.	
Restoration and Post-Monitoring:	According to Reference B-280, restoration included construction of an "Inlet Cove Bottom Blanket" and "restoration of the Cove." Details not obtained.	
Site-Specific Difficulties:		
Monitoring Data		
References:		
	<ul style="list-style-type: none">• Sediment• Water:• Fish:	

POTENTIALLY RESPONSIBLE PARTIES

Project Name **PETTIT CREEK FLUME**

ProjectID: 02-10

PRP Name: PRP INFORMATION NOT RELEASED

PRPID:

Street Address:

City:

State:

KEY CONTACTS

Project Name **PETTIT CREEK FLUME**

ProjectID: 02-10

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 PETTIT CREEK FLUME

ProjectID: 02-10

Reference Type: A

ReferenceID: 17

Title: *OCC-Durez Pettit Creek Inlet Cove
Site No. 09-32-018
Proposed Remedial Action Plan*

Location: AEM

Category: Contaminated Sediments: Remedial Options/Guidance

Prepared by/Author: New York State Department of Environmental Conservation,
Division of Hazardous Waste Remediation

**Preparer/Author
Address:**

Prepared For:

Date Published: November 1991

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 429

Title: *Durez Inlet Remediation Project: Final Engineering Report
(selected pages)*

Location: AEM

Category: Contaminated Sediments: Remediation Final Report

Prepared by/Author: Rust Environment and Infrastructure, Inc.

**Preparer/Author
Address:** 12 Metro Park Road
Albany, NY 12205

Prepared For: Occidental Chemical Corporation

Date Published: December 1996

**Key Words and
Phrases:**

REFERENCES

Project Name PETTIT CREEK FLUME

ProjectID: 02-10

Reference Type: B

ReferenceID: 280

Title: *Durez Division - Occidental Chemical Corporation; NYSDEC
Inactive Hazardous Waste Disposal Report*

Location: AEM

Category: Site Update

Prepared by/Author: New York State Department of Environmental Conservation

**Preparer/Author
Address:** Albany, NY

Prepared For: General Public

Date Published: April 1998

**Key Words and
Phrases:**

Reference Type: B

ReferenceID: 771

Title: *Realizing Remediation I - Great Lakes Contaminated Sediments
Pettit Flume - Durez-Occidental
(see Reference A-905)*

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: US EPA Great Lakes National Program Office (GLNPO)

**Preparer/Author
Address:** 77 West Jackson Boulevard (G-17J)
Chicago, IL 60604

Prepared For: General Public

Date Published: August 1, 2002

**Key Words and
Phrases:**

REFERENCES

Project Name PETTIT CREEK FLUME

ProjectID: 02-10

Reference Type: B

ReferenceID: 828

Title: ***Realizing Remediation II - Updated Summary:
Niagara River AOC: Pettit Flume - Durez-Occidental (Pettit
Creek Flume)
(see Reference A-907)***

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: US EPA Great Lakes National Program Office (GLNPO)

**Preparer/Author
Address:** 77 West Jackson Boulevard (G-17J)
Chicago, IL 60604

Prepared For: General Public

Date Published: July 2000

**Key Words and
Phrases:**

Reference Type: C

ReferenceID: 574

Title: ***Sediment Remediation Can Improve Great Lakes Water Quality***

Location: AEM

Category: Miscellaneous

Prepared by/Author: (1) John H. Hartig, (2) Lisa Maynard, (3) Michael A. Zarull, (4) Gail Krantzberg

**Preparer/Author
Address:** (1) Greater Detroit American Heritage River Institute
Detroit, MI
(2) International Joint Commission
Windsor, Ontario, Canada
(3) National Water Research Institute
Burlington, Ontario, Canada
(4) Ontario Ministry of Environment

Prepared For: Water Environment & Technology (WE&T)

Date Published: October 1999

**Key Words and
Phrases:**

REFERENCES

Project Name **PETTIT CREEK FLUME**

ProjectID: 02-10

Reference Type: D

ReferenceID: 26

Title: ***Milestone in cleanup of Niagara***

Location: AEM

Category: Site Update

Prepared by/Author: Paul MacClennan

Preparer/Author

Address:

Prepared For: The Buffalo (NY) Newsday

Date Published: April 24, 1994

***Key Words and
Phrases:***
