

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

Project Name	<u>GILL CREEK (DuPont)</u>	ProjectID: 02-05
Last Updated:	07/11/01	
City:	Niagara Falls	
County:	Niagara	
State:	NY	
Country:	USA	
Bodies of Water:	Gill Creek; 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:	N/A	
Areas of Concern (length or acres):	250-foot sector of Gill Creek near confluence its with Niagara River.	
Other Characteristics of Water Body:		
Contaminants of Concern:	VOCs, mercury, and PCBs	
Source of Contamination:	Historical operations and onsite disposal practices at the Dupont Plant. Gill Creek sediments became contaminated as a result of offsite migration of contaminated ground water.	
Contaminated Area Physical Characteristics:	Contaminated sediments; other specifics not available. The highest measured concentration of PCBs in sediments was 11,000 ppm.	
Type of Regulatory Action:	Final; Dupont and Olin agreed to cooperate with the New York State Department of Environmental Conservation in implementing the remediation program described in the Gill Creek Plans and Specifications (April 1992).	
Overall Status Summary:	Voluntary removal of about 7,000 - 8,000 cy by PRP in 1992. The creek was isolated with a cofferdam at the confluence with the Niagara River; and the creek was rerouted. Vacuum dredging, mechanical excavation, and vacuum removal after spray washing were used to remove sediments. Most removed materials were stabilized with fly ash and kiln dust and sent to a hazardous waste and TSCA-permitted landfill. A portion of the material from Area 3 (3,230 cy) went to a RCRA-permitted incinerator. Five years of post-remediation monitoring, consisting of periodic inspection of sediment traps and annual collection of surface-water and sediment samples, were completed in 1998. According to Dupont, these data show "no indication that recontamination of sediment is occurring." Therefore, no further post-remediation monitoring is planned for the portions of Gill Creek examined during this study.	
Remedial Action Planned:	<input checked="" 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"/>	

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

Project Name ***GILL CREEK (DuPont)***

ProjectID: 02-05

Last Updated: 07/11/01

References: ☒

Modeling: ☐

Fishing Advisory: ☒

Key Conditions: commercial landfill, Great Lakes AOC, incineration, post monitoring, solidification / stabilization

REMEDIAL ACTION PLANNED

Project Name	<u>GILL CREEK (DuPont)</u>	ProjectID: 02-05
Last Updated:	10/06/98	
Target Sediment Cleanup Standards (TSCS):	None	
How TSCS Established:	N/A	
Target Bank and Floodplain Cleanup Levels (if applicable):		
Other Target:		
Environmental Sample Data References:		
	<ul style="list-style-type: none">• Sediment:• Water:• Fish:	
Estimated Target Volume:	Area 1: 3,400 cy; Area 2D: 160 cy; Area 3: 40 cy; Riverbank: Not estimated.	
Planned Disposal Method:		
Estimated Calendar Time to Implement Remedy:		
Estimated Time to Implement Remedy:	Not identified	
Estimated Cost to Implement Remedy:	Not identified	
Stated Remedial Action Objectives (and Source):	<p>The goals of the remediation as stated in the Proposed Remedial Action Plan (PRAP) were to:</p> <ul style="list-style-type: none">• Minimize the potential for both short- and long-term human exposure to chemicals in the creek sediments.• Reduce, to the maximum extent practicable, the release of chemicals to the aquatic environment by removing sediments in the creek, therefore restoring the affected area to a productive aquatic environment.• Minimize and/or stop the potential for migration of chemicals/sediments to the Niagara River.• Permanently treat and/or dispose of sediments in a manner consistent with all state and federal regulations.• Restore the site to a condition allowing productive use in accordance with local zoning laws and with minimal site restrictions or institutional controls.	
Measures of Success to be Used:	Not identified	
Planned Monitoring and Restoration:	Post remediation monitoring for 5 years consisting of sediment and water column sampling.	

REMEDIAL ACTION PLANNED

Project Name **GILL CREEK (DuPont)**

ProjectID: 02-05

Last Updated: 10/06/98

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

REMEDIAL ACTION IMPLEMENTED

Project Name:	<u>GILL CREEK (DuPont)</u>	ProjectID: 02-05
Last Updated:	07/11/01	
Physical Target:	"In the section of Gill Creek passing through and adjacent to the DuPont and Olin plants, three sediment contamination areas were delineated. Area 1 is between the Niagara River and the north side of Staub Road; the northern end of Area 1 corresponds to the edge of the clay layer placed over the creek bottom after the 1981 remediation of the creek. Area 2 is divided into Area 2 upstream (2U), covering the area between Adams Avenue and Buffalo Avenue, and Area 2 downstream (2D), covering the area north of the Staub Road bridge to 40 feet to the south of the Adams Avenue bridge. Area 3 is located below and 40 feet south of Adams Avenue."	
Goals:		
Primary Contractor:	Sevenson Environmental	
Other Contractors:		
Generic Remediation Method:	Dry excavation	
Equipment:	<p>Five temporary diversion structures were constructed to divert Gill Creek and Niagara River flows from the remediation area and to manage water-handling operations during the remediation of Gill Creek. Several additional sandbag diversion structures were also constructed with the prior approval of the NYSDEC to further isolate work areas and facilitate water management.</p> <p>Diversion Structure No. 1, located upstream of Buffalo Avenue, diverted Gill Creek flows to the Buffalo Avenue Diversion Sewer, through an inlet structure located approximately 400 feet upstream of Buffalo Avenue. Diversion Structure No. 2, (the cofferdam), located in the Niagara River at the mouth of Gill Creek, separated the Niagara River from the Gill Creek channel. Diversion Structures No. 3, 3A, and 4, separated the construction areas and prevented the migration of contaminated sediments and water from one area to another.</p> <p>Sediments in Areas 1 and 3 were mechanically excavated after the creek had been diverted and the remaining creek water removed. Area 1 used backhoes and front end loaders and Area 3 used primarily small earth moving equipment. Some Area 3 sediments required removal by vacuum dredging due to low clearance. Final cleanup of Areas 1 and 3 consisted of power washing the exposed bedrock and vacuuming the remaining sediments and wash water from the creek bottom. A thin layer of sediments in Area 2D was hydraulically removed by a combination of water spray and vacuum dredging techniques (vacuum truck).</p>	
Material Handling:		
Volume Removed:	Disposal volume (including volume of stabilizers -- flyash and kiln dust) totaled 8,020 cy including: Area 1: 6,500 cy; Area 2D: 1,170 cy; Area 3: 230 cy; Riverbank: 120 cy.	
Calendar Time:		
Time To Implement:	Total Project - 6 months (July 1992 - December 1992) Sediment Removal - 2 months (September through October 1992).	
Total Cost:	About \$10 - 14 million; about \$1,250 - 1,750 per cy.	
Dredging Cost:	N/A	
Disposal of Sediment:	Excavated material stabilized with fly ash and kiln dust and then transported from PRP property via trucks to a RCRA and TSCA permitted landfill for disposal, with the exception of 230 cy of sediment which exhibited the hazardous waste characteristic of EP Toxicity for gamma-BHC and was	

REMEDIAL ACTION IMPLEMENTED

Project Name:	<u>GILL CREEK (DuPont)</u>	ProjectID: 02-05
Last Updated:	07/11/01	
	disposed off-site in a RCRA/TSCA permitted incinerator.	
Volume of Water:	Not available	
Method of Water Treatment:	Liquids draining from the sediments were treated on-site and then discharged to the Niagara Falls POTW. A temporary water treatment system was constructed to treat all remediation waters. The WTS included activated carbon filtration systems, sand filters, lamella clarifiers, filter presses, and air strippers.	
Water Discharge Limit:		
Air Monitoring During Remediation:		
Water Monitoring During Remediation:		
Outcome:	The contaminated sediments were removed by vacuum dredging, mechanical excavation, and high pressure water sprays (followed by vacuuming). Completion of remediation was based on visual inspection of the remediated creekbed. No verification samples. A compacted clay liner was installed to prevent groundwater seepage into the creek. Also, specific action was taken to eliminate seep areas identified during dewatering of the creek. A total of 8020 cy was removed (7,980 cy landfilled, 40 cy incinerated) -- about double the original estimate.	
Restoration and Post-Monitoring:	After sediment removal was completed, the creekbed was restored by removing diversion structures and restoring creek flow. Five years of post-remediation monitoring, consisting of periodic inspection of sediment traps and annual collection of surface-water and sediment samples, was conducted from 1993 to 1998. According to DuPont, data collected during post-remediation monitoring indicate there is no recontamination of sediment occurring. Therefore, no further post-remediation monitoring is planned for portions of Gill Creek examined during this study.	
Site-Specific Difficulties:	Volume of sediment removed was approximately double the estimated amount. Sediments were generally deeper and covered a broader area than expected. Clearance problems were encountered with equipment in some areas.	
Monitoring Data References:	<ul style="list-style-type: none">• Sediment• Water:• Fish:	

POTENTIALLY RESPONSIBLE PARTIES

Project Name **GILL CREEK (DuPont)**

ProjectID: 02-05

PRP Name: PRP INFORMATION NOT RELEASED

PRPID:

Street Address:

City:

State:

KEY CONTACTS

Project Name **GILL CREEK (DuPont)**

ProjectID: 02-05

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 GILL CREEK (DuPont)

ProjectID: 02-05

Reference Type: A

ReferenceID: 18

Title: *Gill Creek Remediation Project - Final Report*

Location: AEM

Category: Contaminated Sediments: Remediation Final Report

Prepared by/Author: Woodward-Clyde Consultants

Preparer/Author Address: 3571 Niagara Falls Boulevard
North Tonawanda, NY 14120

Prepared For: E.I. Du Pont De Nemours & Company, Inc. and Olin Corporation

Date Published: 1993

Key Words and Phrases: sediment remediation, vacuum dredging, mechanical excavation, high pressure water sprays

Reference Type: A

ReferenceID: 657

Title: *Record of Decision: Gill Creek - Sediments Removal Project*

Location: AEM

Category: ROD/Proposed Plan/Action Memo/Decision Document

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

Preparer/Author Address: Albany, NY

Prepared For:

Date Published: March 1992

Key Words and Phrases:

Reference Type: A

ReferenceID: 665

Title: *Gill Creek Post Remediation Monitoring Final Report*

Location: BBL

Category: Monitoring, Post

Prepared by/Author: DuPont Corporate Remediation Group

Preparer/Author Address: Barley Mill Plaza, Building 27
Wilmington, DE 19880-0027

Prepared For:

Date Published: March 19, 1999

Key Words and Phrases:

REFERENCES

Project Name GILL CREEK (DuPont)

ProjectID: 02-05

Reference Type: B

ReferenceID: 281

Title: *Dupont Plant Site; 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: 769

Title: *Realizing Remediation I - Great Lakes Contaminated Sediments
Gill Creek - DuPont Plant Site
(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 GILL CREEK (DuPont)

ProjectID: 02-05

Reference Type: B

ReferenceID: 824

Title: *Realizing Remediation II - Updated Summary:
Niagara River AOC: Gill Creek - Dupont Site
(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: 572

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 GILL CREEK (DuPont)

ProjectID: 02-05

Reference Type: J

ReferenceID: 14

Title: *Gill Creek - DuPont Plant Site*

Location: AEM

Category: Site Update

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

Preparer/Author Address: Buffalo, NY

Prepared For: NYSDEC Internet Website

Date Published:

Key Words and Phrases:

Reference Type: L

ReferenceID: 87

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: R

ReferenceID: 21

Title: *Letter to PRP re: Case Histories: Contaminated Sediment Sites (with response from DuPont)*

Location: AEM

Category: Site Update

Prepared by/Author: AEM, Inc. with response from DuPont

Preparer/Author Address: Malvern, PA 19355

Prepared For: DuPont Corporate Remediation, submitted to

Date Published: August 19, 1998

Key Words and Phrases:

FISH ADVISORIES

Project Name **GILL CREEK (DuPont)**

ProjectID: 02-05

Advisory: Gill Creek

AdvisoryID: 453

Extent: Mouth to Hyde Park Lake Dam (Niagara County)

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: 2107

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Tony Forti

Contact Number: 518-402-7815

Advisory: Gill Creek

AdvisoryID: 455

Extent: Mouth to Hyde Park Lake Dam (Niagara County)

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: 2107

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Tony Forti

Contact Number: 518-402-7815

Advisory: Gill Creek

AdvisoryID: 956

Extent: Mouth to Hyde Park Lake Dam (Niagara County)

Pollutant: dioxin

Species: all fish

Population: NCGP

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

Advisory Type: River

Advisory Number: 2107

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Tony Forti

Contact Number: 518-402-7815

FISH ADVISORIES

Project Name **GILL CREEK (DuPont)**

ProjectID: 02-05

Advisory: Gill Creek

AdvisoryID: 953

Extent: Mouth to Hyde Park Lake Dam (Niagara County)

Pollutant: dioxin

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: 2107

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Tony Forti

Contact Number: 518-402-7815
