

GENERAL SITE INFORMATION, CHARACTERISTICS, AND STATUS

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| Project Name | <u>GRASSE RIVER - PROJECT 1 (Hot Spot)</u> | ProjectID: 02-01 |
| Last Updated: | 09/09/02 | |
| City: | Massena | |
| County: | St. Lawrence | |
| State: | NY | |
| Country: | USA | |
| Bodies of Water: | Grasse 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): | One-acre nearshore hot spot in the Grasse River adjacent to plant Outfall 001. | |
| Other Characteristics of Water Body: | The lower Grasse River has relatively steep banks, a relatively flat bottom, and minimal floodplains. Water depths range from 10 feet (upstream) to 25 feet (downstream). The river width varies from 400 to 600 feet. The River has an average water velocity of 0.11 feet per second. The minimum average 7 consecutive day flow at a recurrence interval of 10 years is 127 cfs; the average discharge to the St. Lawrence River is 1,127 cfs. | |
| Contaminants of Concern: | PCBs (1242/1260) | |
| Source of Contamination: | Primary source reportedly Alcoa historic plant discharges. | |
| Contaminated Area Physical Characteristics: | One acre near-shore hot spot in the Grasse River adjacent to plant Outfall 001; PCB levels 12 - 11,000 ppm. | |
| Type of Regulatory Action: | EPA-Lead. Interim; removal of highest PCB concentrations as non-time critical removal action; voluntary action by PRP; agency approval. | |
| Overall Status Summary: | <p>RODs were issued by NYSDEC for land-based areas. Dredging was pursuant to an EPA Administrative Order. Pilot dredging of 2,600 cy of sediment and wet excavation of 400 cy of rocks/boulders were performed as a non-time critical removal action (NTCRA) in a nearshore one-acre hot spot in the Grasse River in 1995. The removed material was deposited in an existing onsite TSCA/RCRA landfill.</p> <p>Sediment sampling within the hot spot area by Alcoa following the removal indicated that average PCB levels in the top one-foot of sediment had been reduced from 518 ppm to 75 ppm and in all depths of sediment from 1,109 ppm to 75 ppm. Caged fish studies performed during the removal indicated that levels of PCBs in the caged fish increased significantly during sediment removal (20 to 50 times higher) and remained elevated (2 to 6 times) up to 6 weeks following the removal. Resident fish PCB levels also were shown to have significantly increased at the time of the removal and reportedly slowly reduced to near pre-removal levels in the three years following the removal.</p> | |
| Remedial Action Planned: | <input checked="" type="checkbox"/> | |
| Risk Assessment: | <input checked="" type="checkbox"/> | |
| Remedial Action Implemented: | <input checked="" type="checkbox"/> | |

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| <i>Last Updated:</i> | 09/09/02 | |

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| <i>Status of Dredging</i> | <input type="checkbox"/> |
| <i>PRPs:</i> | <input checked="" type="checkbox"/> |
| <i>Contacts:</i> | <input checked="" type="checkbox"/> |
| <i>References:</i> | <input checked="" type="checkbox"/> |
| <i>Modeling:</i> | <input checked="" type="checkbox"/> |
| <i>Fishing Advisory:</i> | <input checked="" type="checkbox"/> |
| <i>Key Conditions:</i> | dedicated landfill or CDF, dredging, hydrodynamic modeling, pilot/demonstration test, post monitoring |

REMEDIAL ACTION PLANNED

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| Project Name | GRASSE RIVER - PROJECT 1 (Hot Spot) | ProjectID: 02-01 |
| Last Updated: | 09/09/02 | |
| Target Sediment Cleanup Standards (TSCS): | None determined; target was to remove as much sediment as practical within an area bounded by a 10 ppm isopleth that would result in an approximate 25% reduction in PCB mass in the river. | |
| How TSCS Established: | N/A | |
| Target Bank and Floodplain Cleanup Levels (if applicable): | N/A | |
| Other Target: | N/A | |
| Environmental Sample Data References: | <ul style="list-style-type: none">• Sediment:• Water:• Fish: | |
| Estimated Target Volume: | Approximately 3,500 cy of in-situ sediment. | |
| Planned Disposal Method: | Existing on-site hazardous waste landfill. | |
| Estimated Calendar Time to Implement Remedy: | June to September 1995 | |
| Estimated Time to Implement Remedy: | 4 months | |
| Estimated Cost to Implement Remedy: | \$3.7 million (including studies/engineering/reporting, construction, transport/disposal, monitoring, and management). | |
| Stated Remedial Action Objectives (and Source): | Pilot study (as a non-time critical removal action) to gain information and experience regarding remedial dredging in the Grasse River, and remove high PCB concentrations from the major hot spot (most upstream location). Source: Engineering Evaluation/Cost Analysis (EE/CA), (BBL, April 1994). | |
| Measures of Success to be Used: | Determination of post-dredging sediment volume and PCB concentration; ability of silt containment system to mitigate releases of sediment/PCBs. | |
| Planned Monitoring and Restoration: | Pre- and post-dredging monitoring of sediment, water column, biota, benthos and air (pre-only); during dredging monitoring of water column, biota and air. No planned in-river restoration activities. | |
| Agency Position on Sediment Removal (and Source): | <p>Pertinent comments re: position post-dredging are contained in Reference B-111 (EPA Region II comments on Draft NTCRA Documentation Report), namely:</p> <ul style="list-style-type: none">• "Generally, the report concludes that the effort was a success in meeting the goals of the project and in achieving the greatest degree of sediment removal possible under the circumstances. EPA agrees that a significant mass of bioavailable PCBs has been removed from the environment, but does not agree that the effort accurately represents the feasible limit of dredging for the entire Grasse River Study Area. ALCOA's experience should be compared to GM's results in terms of cleanup levels, depth of residual sediment and containment system effectiveness. Other similar project experience may also be relevant for evaluating the success of ALCOA's effort." | |

REMEDIAL ACTION PLANNED

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- "The hydraulic dredge, which was said to be the best method for dredging of the Study Area, may not have been since it left significant volumes of sediment in place. Would better sediment recovery have been achieved if ALCOA had allowed the silt or sediment to settle prior to attempting successive dredge passes? There is no doubt that the rocks and cobbles also deterred from hydraulic dredge performance. Would another type of boulder removal operation have been more successful?"
- "The statement that "these efforts suggest that attaining relatively low levels of PCBs on a consistent basis via hydraulic dredging is not likely in the Grasse River" (page ES-2) is valid only if the sediments in the lower river are equally rocky as in the NTCRA area and if their initial concentrations are as high as those sediments in the hotspot. The results of the NTCRA do not give any information as to residual concentrations of PCBs which will be left after hydraulic dredging. Rather, the NTCRA results might be used to give some general idea of sediment removal efficiencies (which should be measured in terms of volumes of sediments removed)."
- "There are geologic and anthropogenic reasons that the bottom topography may not be similar throughout the Grasse River. Also, the conclusion with respect to hydraulic dredging should not be applied to dredging in general, as other methods may be more effective in rocky sediments."
- "The cost data should be presented in more detail to identify the components of "construction cost", and to estimate the fixed versus variable costs for the project. One reason that the cost per cubic yard of remediated sediment is relatively high is the small amount of sediment compared to the mobilization and overhead costs. To provide a more realistic estimate of the cost of dredging on a larger scale, these fixed costs should be identified. Also, the capital and operating costs of the water treatment facility should be presented, so the cost advantages of non-hydraulic dredging methods can be evaluated."
- "The Program Summary should be focused on the volume of sediment removed (and the volume of sediment left behind) rather than the concentration of PCBs in the remaining sediment. Dredge performance cannot be measured in the concentration of PCBs left behind but rather in the volume of PCB containing sediments which could not be removed. For instance, the same dredge could be used in a much less contaminated area of the Grasse River. One would expect a similar volume of sediment to be left behind (given similar bottom conditions). However, a much lower concentration of PCBs would be left behind since pre-dredging PCB concentrations would be much lower."

RISK ASSESSMENT

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| <i>Project Name</i> | <i><u>GRASSE RIVER - PROJECT 1 (Hot Spot)</u></i> | <i>ProjectID:</i> 02-01 |
| <i>Last Updated:</i> | 08/29/02 | |
| <i>RA Type:</i> | Baseline Human Health & Ecological; Public Health | |
| <i>RA Status:</i> | Complete | |
| <i>RA Objectives:</i> | To evaluate actual or potential exposures to site contaminants under current and future land use scenarios | |
| <i>Company Performing RA:</i> | 1993, TRC Environmental Corporation (for US EPA); 2002, Alcoa Inc. | |
| <i>RA Reference Report:</i> | Revised Risk Assessment - Aluminum Company of America (ALCOA) Study Area (1993) (Reference A-358); Analysis of Alternatives Report which summarizes the RA (Alcoa, June 2002) (Reference A-883). | |
| <i>RA Summary and Conclusions:</i> | Refer to Grasse River - Project 2 (the River), Project ID 02-16, for the risk assessment summary and conclusions. | |

REMEDIAL ACTION IMPLEMENTED

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| Project Name: | <u>GRASSE RIVER - PROJECT 1 (Hot Spot)</u> | ProjectID: 02-01 |
| Last Updated: | 09/09/02 | |
| Physical Target: | Sediments in a one-acre near-shore hot spot. | |
| Goals: | Pilot study (as a non-time-critical removal action) to gain information and experience regarding remedial dredging for use in the Analysis of Alternatives Report, and remove high PCB concentrations from the major hot spot. | |
| Primary Contractor: | OHM Remediation Services | |
| Other Contractors: | American Marine (silt curtains); BBL (consultant/field monitoring); Aqua Dredge (dredging); Morrison Knudsen (transport and disposal); Buffalo Industrial Diving Co. | |
| Generic Remediation Method: | Hydraulic dredging; wet excavation (for rocks and boulders); diver-assisted | |
| Equipment: | Backhoe used for boulder and debris removal; horizontal auger dredge used for sediment; some diver-assisted vacuum dredging in shallow water within existing steetpile wall; floating oil boom, and three silt curtains (an outer, an inner secondary, and one for the nearshore boulder zone). | |
| Material Handling: | Dredged slurry was piped from the dredge via a floating pipeline to a desander on shore, where large solids were screened-out. Lime was then added to the slurry in a mix tank. The slurry was mixed in three 210,000 gallon agitated tanks, then sent through four recessed chamber filter presses. The shaker screen rejects, sand, and dewatered filter cake were collected and transported to an existing onsite landfill. | |
| Volume Removed: | 2,600 cy (in situ) of sediment; 400 cy of rocks and boulders. | |
| Calendar Time: | June 19, 1995 - October 3, 1995. Boulder zone removals occurred from July 17 to August 9, 1995. Sediment removal operations began on August 9, 1995 and continued for 29 days until September 6, 1995. Dredging occurred typically 8-10 hours per day, Monday through Friday (Reference A-13). | |
| Time To Implement: | 3.5 months. | |
| Total Cost: | \$4.9 million; \$1,670 per cy; Further breakdown is: Studies/Engineering Design/Reports (\$675K), Mobilization/Equipment Installation/Demobilization (\$1,504K), Engineering/Site Construction (\$118K), Boulder Removal (\$192K), Sediment Removal/Dewatering/Water Treatment (\$1,081K), Transport/Disposal (\$425K), Monitoring/Documentation (\$575K), and Alcoa Management (\$300K). | |
| Dredging Cost: | Not available | |
| Disposal of Sediment: | 2,819 tons of dewatered filter cake, sand, and shaker screen rejects were disposed into a dedicated onsite TSCA/RCRA landfill, already in operation on the adjacent PRP property. 400 tons of rocks/boulders were also removed and disposed in the same landfill. | |
| Volume of Water: | Approximately 11.7 million gallons | |
| Method of Water Treatment: | Two treatment trains, each handling 300 gpm. Each train consisted of a sand filter, four sets of dual-bag filters in series, and dual cells of liquid phase granular activated carbon. A 12,000 gallon pool was used to store treated water for backwashing. A 50,000 gallon equalization pool was used to | |

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| | store filter press filtrate, prior to treatment. | |
| Water Discharge Limit: | 0.3 ug/L (per Aroclor) and 1.2 ppb total PCBs; action levels set by the Agencies. | |
| Air Monitoring During Remediation: | Yes. No detectable PCBs. | |
| Water Monitoring During Remediation: | <p>TSS (25 mg/L above background), total PCBs (greater than 2 ug/L), and turbidity (30 NTUs above background) outside containment perimeter. Ten days into project water column sampling was reduced to turbidity monitoring only. During boulder removal, PCB trigger level was exceeded on 7 days resulting in adjustment of silt curtains and slowing production. During dredging, PCB trigger level was exceeded on 6 days resulting in adjustments to containment system. TSS maximum average was 10.7 mg/L (35.6 mg/L individual maximum resulting in corrective action); total PCB maximum average was 1.7 ug/L; one turbidity exceedance (42 NTUs). PCBs were detected above the acute Federal AWQC of 2 µg/L once at a location downstream of the Outfall 001 mixing zone (approximately 2,300 feet downstream of curtains). Relative to pre-NTCRA data, those levels are unprecedented and imply that the removal operations contributed significantly to such conditions (NTCRA Documentation Report, BBL, December 1995).</p> | |
| Outcome: | <p>Removed an average of 2 feet of sediment from the one-acre hot spot; the average residual PCB concentration in sediment was 75 ppm; removed an estimated 84% of sediment from the hot spot area and 27% of PCB mass in Grasse River; typically 2 passes with dredge. Four to 14 inches of sediment remained following the removal and stakeholders determined that sediment removal was completed to the extent possible. Residual PCB concentrations in surface sediments remaining following the removal action ranged from 1.1 to 260 ppm.</p> <p>(Source: Reference M-245) "...minnows placed in stationary cages in the Grasse River showed significantly higher PCB uptake during dredging (20 to 50 times higher) and up to six weeks following dredging (2 to 6 times higher) compared with PCB uptake before dredging."</p> | |
| Restoration and Post-Monitoring: | Post-dredging monitoring of in-river sediment, water column, benthos and biota on-going; no planned restoration activities at this time. | |
| Site-Specific Difficulties: | <p>Rocks and boulders; hardpan bottom inhibited removal of all sediment (i.e., could not over-excavate); substantial increase in downstream caged fish PCB levels during dredging; elevated levels of dissolved PCBs measured outside silt curtains.</p> <p>As described in Reference A-94: "One problem was that the nature of the River bottom was different than originally anticipated. The dredgeable sediments contained an unusual amount of hidden rocks and cobbles within the dredge layer that were apparently derived from the in situ bedrock formation in this area. This formation is a competent, glacial till unit containing large boulders, cobbles, and rock fragments overlain by a soft sediment layer containing gravels, cobbles, sands, and silts deposited by the River. In some areas, large boulders protruding from the bedrock were overlain by this soft sediment layer. The rocky nature of the dredge layer created a less than ideal environment for the dredge. If the 8-foot horizontal augerhead of the dredge encountered a hidden cobble along its span, the auger would deflect off of the obstruction and thus fail to completely remove sediment along its path. This was particularly true of the upstream half of the dredge area. In addition, the short traverses that the dredge would complete in a perpendicular-to-shore direction would not allow the pump to reach its maximum potential flow rate (2,300 gpm) until the completion of the dredge pass. This phenomenon, coupled with in situ obstructions in the sediment, had a great influence on sediment removal efficiency and percent solids of the dredge slurry. The River bottom throughout the entire removal area was also stepped, requiring the dredge operator to lift the augerhead to conform to the contour of the River bottom. Also, multiple passes were performed to recover as much material as possible. This led to</p> | |

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slowdowns and increased water recovery during dredging, in addition to zones of sediment left behind as indicated by post-dredge probing."

Monitoring Data

References:

- **Sediment**
- **Water:**
- **Fish:**

POTENTIALLY RESPONSIBLE PARTIES

Project Name **GRASSE RIVER - PROJECT 1 (Hot Spot)**

ProjectID: 02-01

PRP Name: PRP INFORMATION NOT RELEASED

PRPID:

Street Address:

City:

State:

KEY CONTACTS

Project Name **GRASSE RIVER - PROJECT 1 (Hot Spot)**

ProjectID: 02-01

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 GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: A

ReferenceID: 13

Title: *Memo re: ALCOA Sediment Dredging Trip Report*

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: Parsons Engineering Science, Inc.

**Preparer/Author
Address:**

Prepared For: Niagara Mohawk Power Corporation

Date Published: September 29, 1995

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 94

Title: *Non-Time Critical Removal Action Documentation Report,
Volumes I and II, Grasse River Study Area, Massena, NY*

Location: AEM

Category: Contaminated Sediments: Remediation Final Report

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

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

Prepared For: Alcoa, Inc.

Date Published: December 1995

**Key Words and
Phrases:**

Reference Type: A

ReferenceID: 261

Title: *Engineering Evaluation / Cost Analysis (pages 3-2 and 3-3 only)*

Location: AEM

Category: RI/FS

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

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

Prepared For: Alcoa, Inc.

Date Published: April 1994

**Key Words and
Phrases:**

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: A

ReferenceID: 265

Title: *Review of the Revised Risk Assessment - Aluminum Company of America (ALCOA) Study Area*

Location: BBL

Category: Risk Assessment

Prepared by/Author: Environ Corp.

Preparer/Author Address: Arlington, VA

Prepared For: Alcoa, Inc.

Date Published: September 15, 1994

Key Words and Phrases:

Reference Type: A

ReferenceID: 266

Title: *Revised Risk Assessment Aluminum Company of America (ALCOA) Study Area*

Location: BBL

Category: Risk Assessment

Prepared by/Author: TRC Environmental Corp.

Preparer/Author Address:

Prepared For: US EPA

Date Published: 1993

Key Words and Phrases:

Reference Type: A

ReferenceID: 267

Title: *Implementation Plan for the Grasse River Study Area Non-Time Critical Removal Action (Massena, NY)*

Location: BBL

Category: Remedial Action Plan/Work Plan

Prepared by/Author: OHM Corp.

Preparer/Author Address: Trenton, NJ

Prepared For: Alcoa, Inc.

Date Published: February 20, 1995

Key Words and Phrases:

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: A
Title: *Engineering Evaluation / Cost Analysis*
Location: BBL
Category: RI/FS
Prepared by/Author: Blasland, Bouck & Lee, Inc
Preparer/Author Address: 6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214
Prepared For: Alcoa, Inc.
Date Published: April 1994
Key Words and Phrases:

ReferenceID: 268

Reference Type: B
Title: *Issues Re: Aluminum Company of America Site : EPA order Index No. II-CERCLA-90229*
Location: AEM
Category: Site Update
Prepared by/Author: Carole Petersen
Preparer/Author Address: US EPA Region II
290 Broadway
New York, NY 10007-1866
Prepared For: Alcoa, Inc.
Date Published: July 5, 1996
Key Words and Phrases:

ReferenceID: 8

Reference Type: B
Title: *EPA Comments on Draft Non-Time Critical Removal Action Documentation Report*
Location: AEM / BB
Category: Contaminated Sediments: Remediation Final Report
Prepared by/Author: Carole Peterson
Preparer/Author Address: US EPA Region II
290 Broadway
New York, NY 10007-1866
Prepared For: Alcoa, Inc.
Date Published: June 20, 1996
Key Words and Phrases:

ReferenceID: 111

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: B

ReferenceID: 156

Title: *Grasse River Study Area Non-Time Critical Removal Action (NTCRA) Documentation Report Response to US EPA Comments*

Location: AEM

Category: Contaminated Sediments: Remediation Final Report

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

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

Prepared For: Alcoa, Inc.

Date Published: July 23, 1996

Key Words and Phrases:

Reference Type: B

ReferenceID: 775

Title: *Realizing Remediation I - Great Lakes Contaminated Sediments St. Lawrence River - ALCOA 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 GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: B

ReferenceID: 829

Title: *Realizing Remediation II - Updated Summary:
St. Lawrence River - ALCOA Site (Grasse River - Project 1)
(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: 165

Title: *Manufacturers mount mission to mop up Massena*

Location: AEM

Category: Site Update

Prepared by/Author: Debra K. Rubin

**Preparer/Author
Address:**

Prepared For: Engineering News-Record (ENR)

Date Published: August 21, 1995

**Key Words and
Phrases:**

Reference Type: C

ReferenceID: 219

Title: *HWTC seeks desorber regulation*

Location: AEM

Category: Site Update

Prepared by/Author:

**Preparer/Author
Address:**

Prepared For: Superfund Week

Date Published: August 13, 1993

**Key Words and
Phrases:**

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: C

ReferenceID: 280

Title: *ALCOA Lagoon cleanup could start in spring*

Location: AEM

Category: Site Update

Prepared by/Author:

Preparer/Author

Address:

Prepared For: Superfund Week

Date Published: June 30, 1995

**Key Words and
Phrases:**

Reference Type: C

ReferenceID: 570

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 (1) Greater Detroit American Heritage River Institute

Address: 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:**

Reference Type: D

ReferenceID: 270

Title: *Pollution remedy has mixed record*

Location: AEM

Category: Site Update

Prepared by/Author: Alex Nussbaum

Preparer/Author

Address:

Prepared For: The Hackensack (NJ) Record

Date Published: August 27, 2001

**Key Words and
Phrases:**

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: E

ReferenceID: 122

Title: *Sediment Management Seminar 2000 Proceedings (Reference E-121)*

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

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

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

Prepared For: Attendees

Date Published: February 10-11, 2000

Key Words and Phrases:

Reference Type: E

ReferenceID: 135

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

Prepared For: Attendees

Date Published: February 9-10, 1998

Key Words and Phrases:

Reference Type: E

ReferenceID: 237

Title: *Remediation of Sediments by Dredging: Methods and Case Histories*

Location: AEM

Category: Dredging: Remedial (Contaminated Sediments)

Prepared by/Author: Bradford S. Cushing

Preparer/Author Address: AEM, Inc.

Prepared For: WODCON XV Conference, Las Vegas, NV

Date Published: June 28 - July 2, 1998

Key Words and Phrases:

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type:

G

ReferenceID: 24

Title:

Alcoa Grasse River Project Update

Location:

AEM

Category:

Site Update

Prepared by/Author:

John George, Mgr

Preparer/Author

Environmental Remediation

Address:

Alcoa Inc.

Prepared For:

Sediment Management Work Group Meeting, Detroit, MI

Date Published:

June 23, 1999

**Key Words and
Phrases:**

Reference Type:

L

ReferenceID: 202

Title:

*Results of Research for Short-Term Impacts on Sediment and
Fish PCB Concentrations Due to Sediment Removal*

Location:

AEM

Category:

Fish/Biota

Prepared by/Author:

AEM, Inc.

Preparer/Author

Address:

Prepared For:

File

Date Published:

March 19, 2001

**Key Words and
Phrases:**

Reference Type:

M

ReferenceID: 245

Title:

*Environmental Dredging: An Evaluation of Its Effectiveness in
Controlling Risks*

Location:

AEM

Category:

Contaminated Sediments: Overview of Issues

Prepared by/Author:

Blasland, Bouck & Lee, Inc.

Preparer/Author

Address:

6723 Towpath Road
P.O. Box 66
Syracuse, NY 13214

Prepared For:

General Electric Company

Date Published:

August 2000

**Key Words and
Phrases:**

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: M

ReferenceID: 282

Title: *Grasse River, Massena, NY, Chapter 3 of: The Effectiveness of Environmental Dredging: A Study of Three Sites (Reference M-281)*

Location: AEM

Category: Miscellaneous

Prepared by/Author: Karl T. Duckworth

Preparer/Author Address: Louisiana State University

Prepared For: Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College

Date Published: May 2000

Key Words and Phrases: Master's Thesis

Reference Type: M

ReferenceID: 334

Title: *A Multimedia Model for Assessing Chemical Fate During Dredging of Contaminated Bed-Sediment*

Location: AEM

Category: Modeling

Prepared by/Author: Fabian F. Sanchez

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Prepared For: Graduate Faculty of the Louisiana State University
The Department of Chemical Engineering

Date Published: December 2001

Key Words and Phrases: Fox River Deposit N, Fox River SMU 56/57, Bayou Bonfouca

REFERENCES

Project Name GRASSE RIVER - PROJECT 1 (Hot Spot)

ProjectID: 02-01

Reference Type: M

ReferenceID: 414

Title: ***Results of Contaminated Sediment Cleanups Relevant to the Hudson River:
Grasse River, New York***

Location: AEM

Category: Contaminated Sediments: Overview of Issues

Prepared by/Author: Joshua Cleland

**Preparer/Author
Address:**

Prepared For: Scenic Hudson
9 Vassar Street
Poughkeepsie, NY 12601

Date Published: October 2000

**Key Words and
Phrases:**

Reference Type: R

ReferenceID: 6

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

Location: AEM

Category: Site Update

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

**Preparer/Author
Address:** Malvern, PA 19355

Prepared For: Alcoa, Inc., submitted to

Date Published: August 14, 1998

**Key Words and
Phrases:**

FISH ADVISORIES

Project Name **GRASSE RIVER - PROJECT 1 (Hot Spot)**

ProjectID: 02-01

Advisory: Grasse River

AdvisoryID: 6

Extent: Mouth to Massena Power Canal (St. Lawrence 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: 2108

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Tony Forti

Contact Number: 518-402-7815

Advisory: Grasse River

AdvisoryID: 7

Extent: Mouth to Massena Power Canal (St. Lawrence 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: 2108

Status (Active or Rescinded): Active

Date Rescinded:

Contact Name: Tony Forti

Contact Number: 518-402-7815
