

# Superfund Program Update for the Grasse River Study Area Massena, New York



June 2001

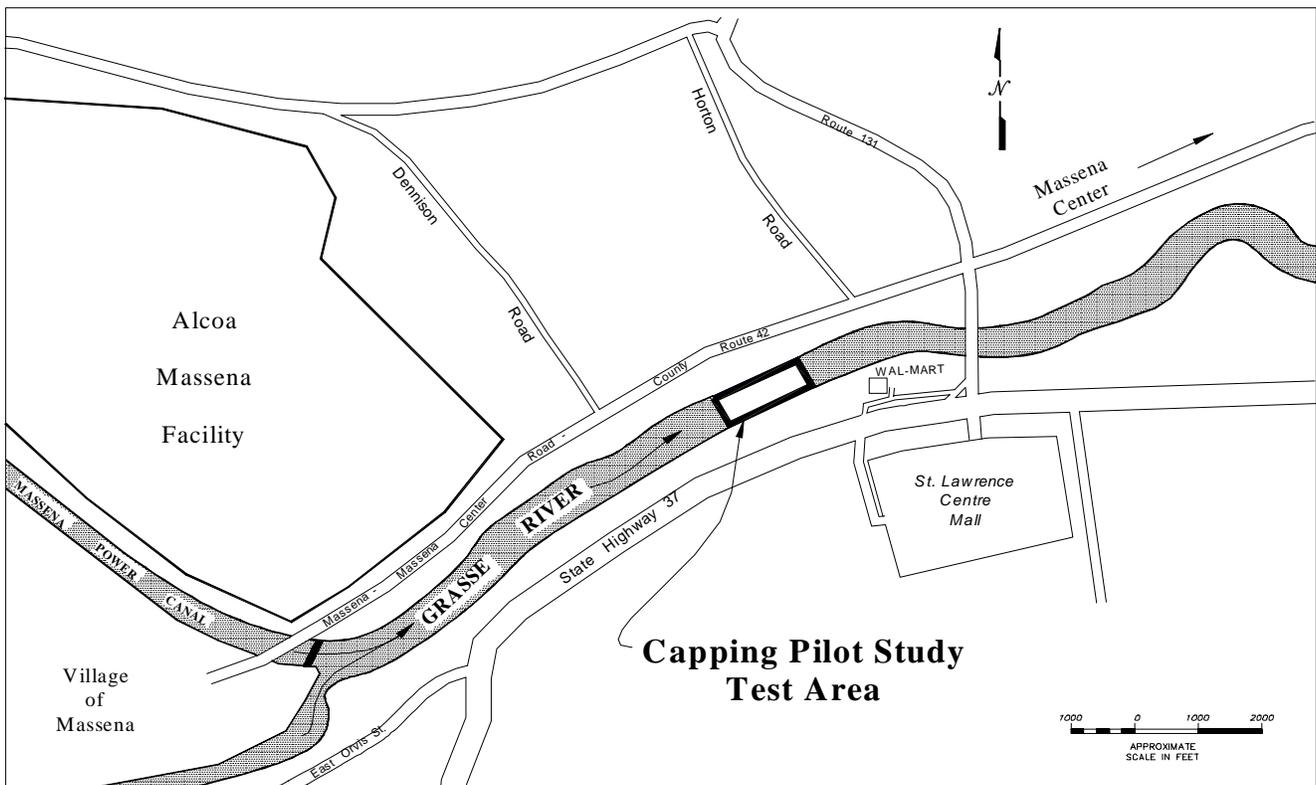
This update is produced periodically by Alcoa and the US EPA to provide an overview of activities associated with the Grasse River Study Area, including key elements of the cleanup process and the next steps in the program.

Your comments on the activities described in this update are welcome.

If you would like more information on the Grasse River Study Area project or have any questions, please contact one of the individuals listed on the back of this newsletter.

## ALCOA TO CONDUCT CAPPING PILOT STUDY

Alcoa, with oversight from the US Environmental Protection Agency (EPA), will conduct a capping pilot study in the Grasse River this summer near its Massena, New York plant. This study is being conducted to better understand how different capping material types can be installed on the river bottom using various placement techniques. An appropriate remediation (cleanup) method has not yet been decided for the Grasse River and the data collected through this study will be used in the development and selection of remedial alternatives. Shown below is the location of the capping pilot study that will be conducted between July and October of this year.



Figure

## PROJECT OVERVIEW

As part of an agreement reached with the EPA in 1989, Alcoa Massena Operations is doing investigation and environmental cleanup work in an area called the Grasse River Study Area. The study area includes a portion of the Grasse River, tributaries of the Grasse River, and wetlands which are between the Grasse and St. Lawrence Rivers and a point one mile west and upriver from Alcoa's western most outfall.

The major contaminant in the Grasse River Study Area is polychlorinated biphenyls (PCBs).

Alcoa has conducted sampling of the Grasse River sediments, water column and biota. Following this extensive sampling effort, Alcoa began evaluating potential remedial alternatives. As a result, Alcoa proposed that a capping pilot study be conducted to gather information necessary to further evaluate capping as a remedial alternative, as this is one option that may be considered for the Grasse River. Capping is a technique where clean materials are placed on top of contaminated sediments to isolate the contaminants from the environment.

The capping pilot study will evaluate different cap material types and several placement techniques. A 750 foot stretch of the Grasse River located approximately midway between the Alcoa facility and the Route 131 bridge was selected as the study site because it is representative of the river's unique characteristics. Scheduled to take place from mid-July to October of this year, the capping study will require approximately 15 weeks to complete.

In conjunction with the capping pilot study, Alcoa will also conduct a pilot study of an innovative PCB treatment technology offered by Weiss Associates (Emeryville, California) called the electrochemical geo-oxidation process (ECGO). The ECGO process applies a low voltage and low amperage electrical current directly to the insitu soils to destroy organic compounds such as PCBs. For the purposes of this study, the ECGO process will be applied to a one cubic meter (1m<sup>3</sup>) test cell with PCB containing soils. The ECGO test cell will be located within the Alcoa Massena Operations facility near the existing bioremediation land treatment units.

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## PROJECT DESCRIPTION

### Capping Pilot Study

The capping pilot study area will be divided into a maximum of four cells to evaluate various caps materials and placement techniques. Different cap materials and configurations include a sand/topsoil mixture, AquaBlok, granulated bentonite or a combination of these materials.

Cap placement techniques will include the use of surface techniques (clamshell bucket) and subsurface techniques (via clamshell bucket and tremie pumping application). The largest cell, referred to as the "Test Cell", will be used to test the potential cap materials and placement techniques. The real-time results obtained from the Test Cell will be evaluated

The Grasse River Study Area is one of three hazardous waste sites in the Massena area that is being overseen by EPA. The General Motors-Powertrain Superfund Site is located approximately six miles from the Alcoa facility on the St. Lawrence River. Alcoa is also cleaning up an area of the St. Lawrence River system surrounding its East Plant (formerly Reynolds Metals St. Lawrence Reduction Plant) in Massena, which is directly upriver from the General Motors site.

Additionally, Alcoa is investigating and remediating areas on the Massena West Plant proper, under an agreement with the New York State Department of Environmental Conservation. Cleanup activities on the Massena West Plant are being conducted separately from the Grasse River Study Area and are not addressed in this update. For information about plant cleanup activities, please contact Kitty Samuel, Alcoa Public Affairs Leader at (315) 764-4302.

by Alcoa, EPA, and other stakeholders in the field and used to determine the final cell configurations for the remaining cells.

### Land-Based Operations

Land-based operations will involve the use of a staging area. The staging area will be located immediately south of the Alcoa Massena Operations facility near Outfall 001 in the same area that was used in 1995 for an interim action that removed highly contaminated sediment near the outfall.

The staging area will be used for storage and mixing of capping materials. Capping materials will be loaded onto a barge and transported downriver to the capping pilot study area.

### Water-Based Operations

The capping pilot study will be conducted along a 750 foot stretch of the Grasse River. Figure 1 on page 1 shows the location of the capping pilot study.

Prior to the initiation of the capping study, a silt curtain will be placed mid-channel extending the entire length of the capping pilot area (see Figure 3 on page 3). The curtain will be placed along one-half of the river width at one time to leave the river open for boat traffic through the entire duration of the study. The silt curtain will cordon off the area located on the north side of the Grasse River. Once implementation within the cells along the north shore is complete, the ends of the silt curtain will be "flipped" to encompass those cells located along the southern shoreline. To allow barge movement in and out of each cell, a series of moveable panels will be placed along the silt curtain.

Capping materials will be placed at the surface and subsurface using equipment located on the in-water equipment barge. All placement methods will implement vertical and horizontal control that will be monitored through the use of a Global Positioning System (GPS) and cable

guides. Real-time positioning data obtained from this equipment will assist the operator in achieving consistent coverage and proper thickness of cap material along the river bottom.

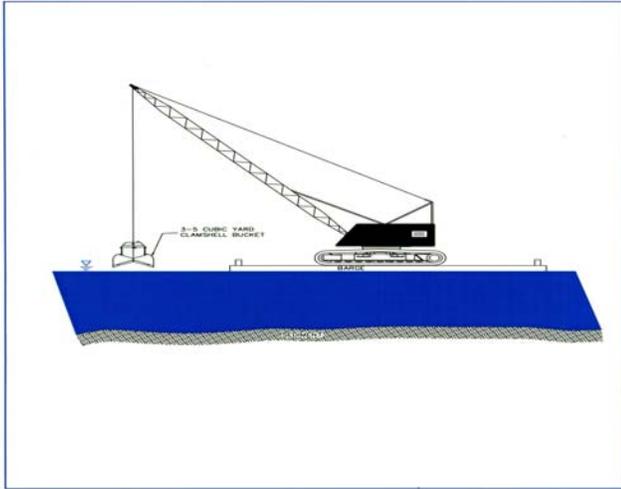


Figure 2

**Surface Placement:** A 3-to 5-yard mechanical clamshell bucket attached to an 80-ton crane will be used to slowly release materials above the water surface (see Figure 2 above). The bucket will be moved methodically along an arc on a horizontal plane while slowly opening to release the material.

**Subsurface Placement:** Subsurface placement techniques will involve the use of a mechanical clamshell bucket and a tremie pumping application (see Figure 4 right).

A 3-to 5-yard mechanical clamshell bucket attached to an 80-ton crane will be used to slowly release materials below the water surface. The bucket will be slowly lowered through the water column prior to releasing the cap materials. The bucket will slowly open and release materials at an anticipated depth of approximately 3 feet or less above the sediment/water interface. As described in the surface application method for the mechanical clamshell, the bucket will be moved methodically along an arc on a horizontal plane while slowly releasing the material to minimize mounding.

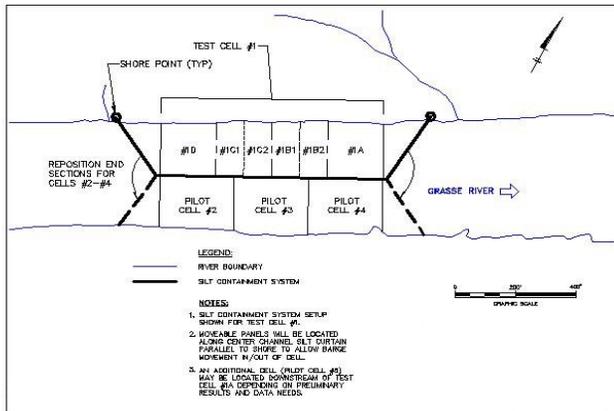


Figure 3

The tremie pumping application uses three pieces of equipment: the carrier (tube or tremie), the directional equipment (a hydraulic excavator and/or boom), and the feeder (a positive displacement pump). These three elements will reside on a barge. A diffuser will be attached to the end of a tremie tube held at the end of the hydraulic excavator arm. The tremie tube will extend to a depth of approximately 3 feet or less above the sediment/water interface. The cap materials will be pumped through the tremie tube while the barge slowly makes passes throughout the cell.

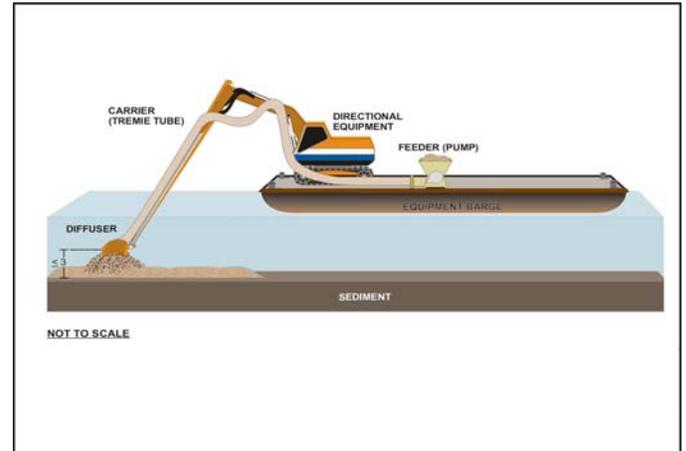


Figure 4

### Environmental Monitoring

The capping pilot study will include an extensive monitoring program. Monitoring will be conducted prior to, during, and following the capping activities. Samples will be taken upriver, adjacent to the study area, within the test cells and downriver. Samples will be collected to document the effectiveness of cap placement techniques, the uniformity of cap coverage, entrainment of underlying sediment in cap materials during placement, the degree and effects of resuspension during placement, water-column impacts during placement, cost, and degree of recolonization of sediment by benthic organisms. The monitoring will alert Alcoa to the need to take any corrective measures, including stopping work if necessary.

### What Does The Study Mean to Those Using The River?

Navigation will not be interrupted. One-half of the river will be open to boaters at all times during the study. Caution is advised when traveling on the river and on County Route 42 in the area of the study due to construction activities.

The study should not impact recreational uses of the river. Continual monitoring will be conducted to ensure the health and safety of those using the river.

## FUTURE NEWS

The next update will report the progress of these activities and explain the process that EPA uses to determine the alternatives for remediating the remaining areas of the Grasse River that are in the Grasse River Study Area. The process involves finalizing the "Analysis of Alternatives Report" and a proposed plan for the river, which is submitted to the public for comments. After a comment and review period, a final cleanup plan is approved by the EPA. This plan is recorded in a "Decision Document" and a cleanup plan is implemented.

Because the update contains only summary information on the Grasse River Study Area, you are encouraged to consult the information repositories which contain site-related documents issued by the EPA. Documents pertaining to this capping study project will be available later this month at the following locations:

### Massena Public Library

41 Glenn Street  
Massena, New York 13662  
M-Th, 10 am to 9 pm and Fri-Sat 10 am to 5 pm  
(315) 769-9914

### US Environmental Protection Agency

290 Broadway, 18<sup>th</sup> Floor  
New York, New York 10007-1866  
By appointment: (212) 637-4217

### St. Regis Mohawk Tribe Environmental Division

Health Services Building  
Hogansburg, New York 13655  
By appointment, please call Ken Jock at  
(518) 358-3141



### Mark Your Calendar

**Monday, July 9, 2001-**  
Public Information Meeting at  
Alcoa Cafeteria, Whitzel Blvd.,  
Massena, NY

**Thursday, July 19, 2001-**  
Capping pilot study work to  
commence.

## GLOSSARY

**Superfund:** The common name for the federal program established by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended in 1986. The Superfund law authorizes EPA to investigate and cleanup sites where hazardous substances have been or might have been released into the environment and may pose a risk to human health or the environment.

**Polychlorinated biphenyls (PCBs):** A group of chemicals used for a variety of purposes including electrical appliances, hydraulic fluids and caulking compounds. PCBs are persistent in the environment because they are very stable, non-reactive and heat-resistant. PCB production and sales were banned in the United States in 1979 due to concerns that some types of PCBs may cause cancer.

**Pilot Study:** An engineering study of a technology with specific objectives and monitoring requirements.

**Sediments:** The layer of soil and mineral at the bottom of surface waters such as streams, lakes and rivers, that absorb contaminants.

**Capping:** Installation of a material over an area of concern to prevent direct contact and provide containment.

**Resuspension:** The lifting of previously settled sediments up into the surrounding water.

**Silt Curtains:** Flexible fabric barriers that are anchored at the bottom and float at the water surface. These are used to isolate and contain the materials within the work area on the river.

**Tremie Pumping:** This technique uses a feed hopper, pumps and a flexible hose to place cap materials under the water near the river bottom (similar to a concrete pumping operation).

## FOR MORE INFORMATION

If you would like more information or would like to be added to the Grasse River site mailing list, please call:

Mary Logan	~	EPA Remedial Project Manager (212) 637-4321
Kitty Samuel	~	Alcoa Public Affairs Leader (315) 764-4302
Larry McShea	~	Alcoa Project Manager (724) 337-5458

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