166867

United States
Environmental Protection
Agency

Office of Public Affairs
Region 5
77 W. Jackson Blvd.
Chicago, Illinois 60604

Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

U.S. EPA Issues Proposed Plan for Interim Ground-water Cleanup At Sauget Area 2 Site

Cahokia, East St. Louis, & Sauget, Illinois — June 2002

This Fact Sheet Explains

- Interim proposed plan to address ground-water contamination
- Site location and description
- Site background and activities
- Risk assessment results
- Alternatives considered to address site contamination
- U.S. EPA's proposed cleanup plan
- How to learn more about the site

You are Invited to a Public Meeting

U.S. EPA will hold a public meeting to explain the Proposed Plan for the Sauget Area 2 Site. Oral and written comments will also be accepted at the meeting.

Date: June 24, 2002

Time: 7:00 p.m.

Place: Sauget Village Hall
2897 Falling Springs Road
Sauget, IL

For special needs or accommodations, please contact Stuart Hill at (312) 886-0689.

Public Comment Period

The U.S. EPA will accept written comments on the Proposed Plan during a 30-day comment period from **June 17 to July 17, 2002.** A pre-addressed comment form is provided in this Proposed Plan.

Interim Alternative Proposed to Address Ground-water Contamination

While the United States Environmental Protection Agency (U.S. EPA) studies long-term clean up options at the Sauget Area 2 Site in Cahokia, East St. Louis, and Sauget, Illinois, an interim ground-water clean-up plan will be implemented to reduce the risk of contamination reaching the Mississippi River. A preferred alternative is identified in the Site's Proposed Plan[1] that will address the discharge of contaminated ground water into the Mississippi River. The final ground-water clean-up plan for the Site will be selected once the Remedial Investigation/Feasibility Study (RI/FS) is completed in 2004.

This Proposed Plan was developed by U.S. EPA in consultation with Illinois Environmental Protection Agency (IEPA). Public comments on the Proposed Plan and the information that supports it are an important contribution to selecting a clean-up plan. Based on new information or public comments, U.S. EPA and IEPA may select another interim action alternative. The public is encouraged to review the Focused Feasibility Study and other pertinent documentation contained in the Administrative Record at the Site's information repository and U.S. EPA Region 5 office (see back page). The Focused Feasibility

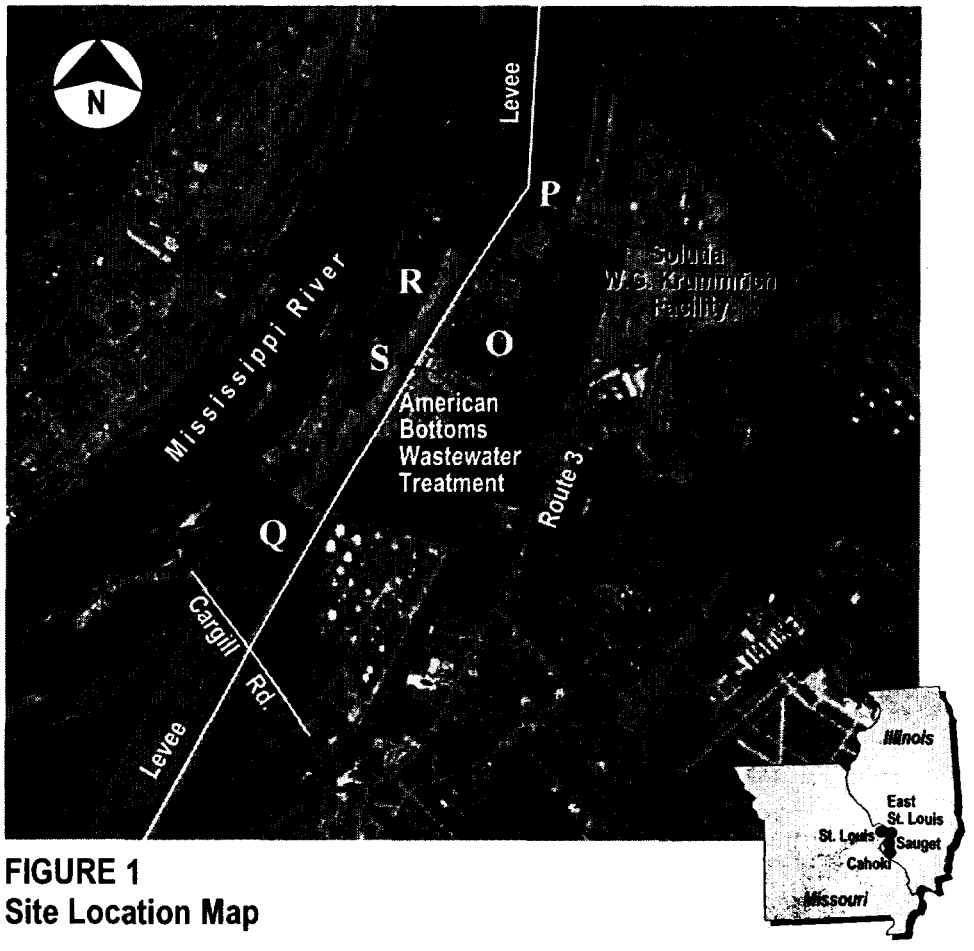

FIGURE 1
Site Location Map

Study evaluates potential alternatives to address the discharge of contaminated ground water to the Mississippi River.

Site Location and Description

The Sauget Area 2 Site is located just east of St. Louis, Missouri within the boundaries of Cahokia, East St. Louis, and Sauget, Illinois. The 312-acre Site is located in the floodplain on the east bank of the Mississippi River. The Site is located west of Route 3 (Mississippi Avenue), north of Cargill Road, and south of the MacArthur bridge railroad tracks (see site location map).

The Site as a whole consists of five inactive disposal areas (disposal sites O, P, Q, R, and S). Of these disposal sites, three are closed landfills (disposal sites P, Q and R), one consists of four closed sludge lagoons (disposal site O), and one is a waste disposal site (disposal site S) associated with an abandoned solvent reclamation facility. The Sauget Area 2 Site is the location of a release of hazardous substances resulting from the treatment and disposal of industrial, municipal, and chemical wastes.

The Sauget Area 2 Site is immediately west and downslope to the Sauget Area 1 Site. The Sauget Area 1 Site consists of six known disposal areas adjacent, or in close proximity, to Dead Creek, segments of Dead Creek that were altered as a result of industrial waste disposal (Dead Creek Segments A through F), and releases from these waste disposal areas. These releases have commingled and migrated along Dead Creek to a perennial wetland and into ground water.

Land uses surrounding the site include four commercial establishments north of the Site, and residential areas located over half-mile east of disposal sites P and O. There are no residences within or adjacent to the Site.

Site Background and Activities

The Site is located in an area that was historically used for heavy industry, including chemical manufacturing, metal refining and power generation, and waste disposal. Hazardous substances have been found on the Site, in the ground water underneath the Site, and in Mississippi River surface water, sediments, and fish tissue from samples collected adjacent to the Site. Currently the Site is used for heavy industry, warehousing, bulk storage (coal, refined petroleum, lawn and garden products, and grain), wastewater treatment, hazardous waste treatment, waste recycling, and truck terminals.

The five disposal areas and the activities that have taken place are described below.

- **Disposal Site O** - Between approximately 1966 and 1978, the four lagoons were used to dispose of sludge from the Village of Sauget wastewater plant. In 1980, the Village of Sauget closed four sludge lagoons at disposal site O by stabilizing the sludge with lime and covering it with approximately two feet of clean, low-permeability soil. Currently, the former lagoons are vegetated.

- **Disposal Site P** - This disposal site was operated by Sauget and Company from 1973 to approximately 1984. It was an IEPA-permitted landfill, which was used for municipal and industrial waste disposal.

- **Disposal Site Q** - Between the 1950s and the 1970s the disposal site Q landfill accepted municipal waste, septic tank pumpings, drums, organic and inorganic wastes, solvents, pesticides, and paint sludges, plant trash, waste from other industrial facilities, and demolition debris. In 1995, U.S. EPA removed drums that were exposed in the riverbank in the southwestern portion of disposal site Q. In 1999/2000, U.S. EPA removed 3,721 drums and 17,032 tons of soil from two ponds in the southeast corner of disposal site Q.

- **Disposal Site R** - Industrial Salvage and Disposal, Inc. operated the landfill at this site for Monsanto from 1957 to 1977. Hazardous and non-hazardous bulk liquid and solid chemical wastes from two of Monsanto's plants were disposed at this disposal site. A two- to eight-foot thick clay cover was installed in 1979 to cover the waste, limit infiltration through the landfill and prevent direct contact with the landfill material. In 1985, a 2,250-foot-long rock embankment was installed along the Mississippi River downslope of the disposal site to prevent erosion of the riverbank and minimize the potential for the release of waste material from the landfill. On February 13, 1992, the State of Illinois and Monsanto signed a consent decree requiring further remedial investigations and feasibility studies by Monsanto. The results of the RI/FS for disposal site R were submitted to IEPA in 1994.

  In 2000 and 2001, ground-water sampling by Solutia found high levels of contamination at disposal site R.

- **Disposal Site S** - In the mid-1960s, wastes from the former Clayton Chemical property, now owned by the Resource Recovery Group, was allegedly disposed of in a shallow, on-site excavation, now designated as disposal site S. This site is a potential waste and/or drum disposal area.

The ground-water contamination downslope of Sauget Area 2 disposal sites O, Q (Dog Leg), R and S; Sauget Area 1 disposal sites G, H, I and L; the W.G. Krummrich Plant and other industrial facilities is discharging to the Mississippi River and contaminating the river sediment. This contaminated ground water exceeds IEPA water quality standards. Ground water is not a source of drinking water for area residents.

On September 13, 2001, U.S. EPA proposed adding the Site to the National Priorities List (NPL) of Superfund sites. The sites on the list are eligible for further investigation and cleanup under the federal Superfund program.

[1] Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires publication of a notice and a Proposed Plan for the site remediation. The Proposed Plan must also be made available to the public for comment. This Proposed Plan fact sheet is a summary of information for the Sauget Area 2 Site. Please consult the Administrative Record for more detailed information. See back page for additional details.

Based on Solutia's 2000 ground-water testing at disposal site R, U.S. EPA requested that Sauget Area 2 Sites Group prepare a Focused Feasibility Study to address the ground-water contamination at disposal site R.

Risk Assessment Results

Several studies have been conducted to determine the current and future effects of contaminants on human health and the environment from exposure to contaminants from disposal site R that can be found in the soil, surface water and ground water. A risk assessment is an analysis of the potential adverse human health and ecological effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate exposure to these hazardous substances.

Human Health Risks

A Human Health Risk Assessment was prepared for disposal site R using historical site data. Potential carcinogenic (cancer causing) risks for on-site workers and areas residents consuming fish are within the acceptable risk range. For noncarcinogenic hazards, the values are also within the acceptable risk range.

Ecological Risks

In June 2001, a Baseline Ecological Risk Assessment was prepared for surface water and sediment in the Mississippi River adjacent to disposal site R. Surface water, sediment and fish tissues samples were collected in October and November 2000 as part of a Baseline Ecological Risk Assessment (Menzie-Cura, 2001). The risk assessment identified fish species at risk from exposure to sediment, fish prey at risk from exposure to surface water, and a number of compounds found in sediment, surface water and fish tissue that were not found in reference areas.

Based upon review of the currently available data for the Site and the findings from the Baseline Ecological Risk Assessment, it is U.S. EPA's current judgement that the preferred interim action identified in the Proposed Plan is necessary to protect public health or welfare of the environment from actual or threatened releases of hazardous substances into the environment.

Summary of Cleanup Alternatives

Based on the currently available ground-water and sediment information, U.S. EPA directed the Sauget Area 2 Sites Group to conduct a Focused Feasibility Study to address the discharge of contaminated ground water to the Mississippi River. The primary objective of an interim cleanup is to protect the Mississippi River from adverse impacts due to the discharge of contaminated ground water from the Site. The Focused Feasibility Study Report presents a detailed evaluation of the remedial alternatives for the interim ground-water cleanup. Three alternatives were reviewed: no action; physical barrier; and a hydraulic barrier. These alternatives are described below.

Alternative A - No Action

Estimated Capital Cost [2]***: $0***
Estimated Operation & Maintenance (O&M) Cost [3]***: $0***
Estimated Present Worth Cost: $0
Estimated Construction Timeframe: *None*

Regulations governing the Superfund program require that the No Action alternative be evaluated at every site to establish a baseline for comparison. Under this alternative, no action would be taken to prevent the discharge of contaminated groundwater to the Mississippi River.

Alternative B - Physical Barrier, Ground-water Extraction, Ground-water Quality Monitoring, Ground-water Level Monitoring, Sediment Toxicity Monitoring, and Institutional Controls

Estimated Capital Cost: $6,802,897
Estimated O&M Cost for 30 years (Present Value):
$19,783,469
Estimated Present Worth Cost (Present Value): $26,586,366
Estimated Construction Timeframe: *12 months*

Physical Barrier - A 3,500-foot long, "U"-shaped, fully penetrating, jet grout barrier wall will be installed between the downslope boundary of Sauget Area 2 disposal site R and the Mississippi River to abate the discharge of impacted ground water to the river. It will extend along the entire 2,000 feet north/south length of disposal site R with the arms of the "U" extending approximately 750 feet to the east (upslope), past the eastern boundary of disposal site R and terminating before the floodwall. Three ground-water recovery wells will be installed inside the "U"-shaped barrier wall to control ground water discharging to the wall.

Groundwater Extraction - Extracted ground water will be routed to the American Bottoms Regional Treatment Facility via subsurface pipeline installed in existing pipeline easements. The pipeline will connect with the Village of Sauget trunk sewer leading to the PChem Plant. From the PChem Plant the discharge will be routed to American Bottoms Regional Treatment Facility for wastewater treatment and ultimately discharged to the Mississippi River. A discharge permit will need to be obtained from American Bottoms in order to discharge pumped water to the Publically Owned Treatment Works (POTW). A State permit may also need to be obtained from the IEPA for the new wastewater source tributary to the POTW, and the American Bottoms discharge permit to the Mississippi River will need to include the proposed groundwater discharge. To obtain this permit, a demonstration will need to be made that constituents in the pumped ground-water will not pass through the POTW without treatment and/or will not interfere with treatment plant operation. Based on the findings of this demonstration, the actual technologies and sequence of technologies used for treatment may change and will be determined during the remedial design.

Groundwater Quality Monitoring - Ground-water samples will be collected downslope of the barrier to determine if con-

[2] Capital cost is the cost of construction.
[3] O&M refers to the operation and maintenance activities conducted at a site, both during and following cleanup actions, to ensure that the cleanup methods are working properly.

taminants are migrating through, past or beneath the barrier wall to the Mississippi River.

Ground-water Level Monitoring - Ground-water level monitoring will ensure acceptable performance of the physical barrier.

Sediment and Surface Water Monitoring - Sediment and surface water samples will be collected in the plume discharge area to determine the effect of any contaminants migrating through, past or beneath the barrier wall and discharging to the Mississippi River. Impact will be determined by comparing constituent concentrations to site-specific, toxicity-based, protective concentrations derived from data used in the Menzie-Cura Baseline Ecological Risk Assessment.

Institutional Controls - Institutional controls will be utilized to limit fishing in the discharge area by limiting site access, posting warning signs, and implementing a public education program.

Alternative C - Hydraulic Barrier, Ground-water Extraction, Ground-water Quality Monitoring, Ground-water Level Monitoring, Sediment Toxicity Monitoring, and Institutional Controls

Estimated Capital Cost: *$539,603*
Estimated O&M Cost for 30 years (Present Value): *$49,798,596*
Estimated Present Worth Cost (Present Value): *$50,338,199*
Estimated Construction Timeframe: *6 to 12 months*

This alternative includes ground-water extraction, ground-water water quality monitoring, water level monitoring, sediment and surface monitoring, and institutional controls previously discussed under Alternative B.

The only difference between Alternative B and C is that ground-water wells would be installed under Alternative C instead of a barrier wall. Three ground-water recovery wells will be installed downslope of Site R to abate discharge of contaminated ground water to surface water to the point where the impact on the Mississippi River is reduced to acceptable levels.

Evaluating the Alternatives

The U.S. EPA used nine criteria, which are required by law and described below, to evaluate the different remediation alternatives individually and against each other in order to select a remedy. The evaluation criteria are:

1. **Overall Protection of Human Health and the Environment** addresses whether an alternative eliminates, reduces or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

2. **Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)** evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified. ARARs are of three types - chemical specific, location-specific, and/or action-specific. Chemical-specific ARARs are numerical values that establish the acceptable amount or concentration of a chemical that may be found in, or discharged to the ambient environment. Location-specific ARARs are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they are located in specific locations. Action-specific ARARs are usually technology- or activity-based requirements or limitations on action taken with respect to hazardous wastes.

3. **Long-term Effectiveness and Permanence** refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup goals have been met.

4. **Reduction of Toxicity, Mobility, or Volume Through Treatment** is the anticipated performance of the treatment technologies a remedy may employ to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

5. **Short-term Effectiveness** involves the period of time needed to implement the remedy and any adverse impacts on human health and the environment that may be posed during the construction and operation of the remedy until cleanup goals are achieved.

6. **Implementability** is the technical and administrative feasibility of implementing the remedy from design through construction and operation, including the availability of services and materials, administrative feasibility, and coordination with other governmental entities.

7. **Cost** includes annual operation and maintenance costs.

8. **State/Support Agency Acceptance** indicates whether, based on its review of the Remedial Investigation and Proposed Plan, the support agency concurs, opposes, or has no comment on the proposed alternative.

9. **Community Acceptance** considers whether the local community agrees with U.S. EPA's analyses and Preferred Alternative. Community input received during the public comment period and the public meeting on this Proposed Plan will be included in the Record of Decision.

Fold on Dashed Lines, Tape, Stamp, and Mail

Name _____

Address _____

City _____ State _____

Zip _____

Place Stamp Here

Stuart Hill
Community Involvement Coordinator
Office of Public Affairs (P-19J)
U.S. EPA - Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

Comment Sheet

U.S. EPA is interested in your comments on the cleanup alternatives indicated in the Proposed Plan. U.S. EPA will consider public comments before selecting a final cleanup remedy for the Sauget Area 2 site. Please use the space below to write your comments, then fold and mail this form. Comments must be postmarked by July 17, 2002. If you have any questions about the comment period, please contact Stuart Hill at (312) 886-0689, or through U.S. EPA's toll-free number at 1-800-621-8431. Those with electronic capabilities may submit their comments to U.S. EPA via the Internet at the following e-mail address: hill.stuart@epa.gov.

Name _____

Address _____

City _____ State _____

Zip _____

FIGURE 2
Evaluation Table

	Alternative A	Alternative B	Alternative C
Overall Protection of Human Health and the Environment	☐	■	■
Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) - (Chemical-specific)	☐	■ (with waiver)	■ (with waiver)
Long-term Effectiveness and Permanence	☐	▒	▒
Reduction of Toxicity, Mobility, or Volume Through Treatment	☐	■	■
Short-term Effectiveness	☐	▒	■
Implementability	☐	▒	■
Annual Costs	$0	$26,586,366	$50,388,199
State/Support Agency Acceptance	U.S. EPA anticipates the State of Illinois to concur with Preferred Alternative.		
Community Acceptance	Community acceptance of the recommended alternative will be evaluated after the pulic comment period ends and will be described in the Responsiveness Summary section of the Interim Action ROD.		

■ = Fully Meets Criteria
▒ = Partially Meets Criteria
☐ = Does Not Meet Criteria

Preferred Alternative

The Preferred Alternative for the Site is Alternative B, which includes a physical barrier, ground-water extraction, ground-water water quality monitoring, water level monitoring, sediment and surface monitoring, and institutional controls. This alternative is preferred because it will achieve substantial risk reduction through the containment and extraction of contaminated ground water downslope of disposal site R, thereby reducing contamination entering the Mississippi River. In the short term, the Preferred Alternative will prevent or abate actual or potential human and ecosystem exposure to hazardous substances, pollutants and contaminants. In the long term, the operation of a barrier may achieve acceptable chemical-specific containment levels downslope of the barrier.

The Preferred Alternative is an interim cleanup of contaminated ground-water at the Site. This limited-scope action would only address the discharge of contaminated ground water into the Mississippi River in the vicinity of Site R. Operation of the physical barrier and ground-water extraction system will provide additional information to be used in developing options for a final long-term comprehensive ground-water cleanup. A final cleanup to fully address other threats posed by conditions at the Site will taken upon the completion of the Site's RI/FS.

The Next Step

U.S. EPA will consider public comments received during the public comment period before selecting the ground-water interim action at the Site. The interim action will be described in a decision document called a Record of Decision (ROD). U.S. EPA will make the ROD available for public review in the information repository and at U.S. EPA's Region 5 office. U.S. EPA will answer public comments received during the public comment period in a document called a Responsiveness Summary, which is part of the ROD.

U.S. EPA and the Sauget Area 2 Sites Group are currently finalizing plans to collect the data needed to prepare the Sauget Area 2 RI/FS Report. As noted earlier this RI/FS will be completed in 2004.

For Additional Information

If you would like additional information about the Proposed Plan for the interim groundwater action at the Sauget Area 2 Site, please visit the information repository at:

Cahokia Public Library District
140 Cahokia Park Drive
Cahokia, IL 62206

An Administrative Record file, which contains detailed information upon which the selection of the recommended alternative will be based, is available at the Cahokia Library and at the U.S. EPA Region 5 office in Chicago. For additional information on the Sauget Area 2 site, please contact:

Stuart Hill (P-19J)
Community Involvement Coordinator
(312) 886-0689
hill.stuart@epa.gov

Mike Ribordy (SR-6J)
Remedial Project Manager
(312) 886-4592
ribordy.mike@epa.gov

U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
Toll Free: 1-800-621-8431
http://www.epa.gov

U.S. Envirionmental Protection Agency
Region 5
Office of Public Affairs (P-19J)
77 W. Jackson Blvd.
Chicago, Illinois 60604

FIRST CLASS

RETURN SERVICE REQUESTED