Lecture 24

Brownfields and Superfund reform

Definition of a Brownfield

"real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant"

(Definition from Public Law 107-118, Small Business Liability Relief and Brownfields Revitalization Act)

EPA estimates there are ½ to 1 million Brownfield sites in the U.S.

References on Brownfields History

Elizabeth Collaton and Charles Bartsch, 1996. Industrial Site Reuse and Urban Redevelopment—An Overview, *Cityscape: A Journal of Policy Development and Research*, Volume 2, Number 3, Pp. 17-61, U.S. Department of Housing and Urban Development, Office of Policy Development and Research, September 1996.

Brownfield News, 2002. http://www.brownfieldcentral.com/v3/TIMELINE.ASP.

Accessed May 10, 2002.

Carla Anderson, 1999. New Hope for New Jersey's Brownfields, *Phoenix Magazine*, Issue No. 4, January 1999.

http://www.friendsofphoenix.org/No4Jan99/Brownfields.htm·

Accessed May 10, 2002.

Brownfields timeline

1980 – CERCLA

- Established strict and several liability for all present and former land owners and operators

1983 – ECRA

- New Jersey Environmental Cleanup Responsibility Act
- nation’s most stringent environmental cleanup law when passed
- required industrial and commercial sites to be clean before they could be sold, transferred, or closed.

NJ ECRA Provisions

Applied to “closing, terminating, or transferring operations,” which were defined to include:

- Any change in ownership or use of a site, including those acquired through condemnation by local governments or authorized development organizations.
- Sale or transfer of stock as part of a corporate merger or consolidation.
- Cessation of all or part of operations for a period longer than 2 years.
- Financial reorganization, bankruptcy proceedings, and similar occurrences.

Brownfields timeline

1986 – SARA

Provided exemptions from liability:

- “innocent landowner’s defense” - allows property owners who “did not know and had no reason to know” of any contamination at the site to be free from liability as long as certain conditions are met.
- secured creditor exception (SCE) – excludes lending institutions that have only limited involvement in the operation of a property, either as its creditor or as its owner following foreclosure

Innocent landowner defense

"had no reason to know" means:

> new owner "must have undertaken, at the time of acquisition, all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice."

In other words: stupid $\neq$ innocent

Brownfields timeline

1990 – Fleet Factors decision

Increased liability for lenders “that could affect hazardous waste disposal decisions”

U.S. Court of Appeals for the 11th Circuit held that a secured creditor could be liable under CERCLA if its involvement in a facility’s management is “sufficiently broad to support the inference that it could affect hazardous waste disposal decisions if it so chose.” The court found that “it is not necessary for the secured creditor to actually involve itself in the day-to-day operations of the facility in order to be liable.”

NJ ECRA law

Late 1980s – emerging problems with ECRA

Alan Mallach, director of housing and economic development for the city of Trenton:

"It was an unmitigated disaster"

“you had to be insane to get involved in a serious cleanup situation”

NJ ECRA law

- Commercial real-estate transactions ceased in most urban areas of New Jersey
- Cities missed real-estate boom of 1980s
- New development was forced to rural areas
- Tax revenues to cities plunged as owners abandoned properties
- Banks would not lend for purchase of potentially contaminated properties

NJ ECRA law

1992 – New Jersey establishes Voluntary Cleanup Program

1993 – New Jersey Industrial Site Recovery Act

- Tied cleanup level to proposed property use: different standards for industrial vs. residential
- Provided NJDEP could issue “no further action” declarations for properties

In April 1992, the New Jersey Department of Environmental Protection's (department) Voluntary Cleanup Program (VCP) initiated operations. Through the VCP, responsible parties, developers, local officials, or individuals may work with the department to remediate non-priority contaminated sites that pose no immediate threat to human health or the environment. Previously, such work was performed under an Administrative Consent Order (ACO) which included time tables and stipulated penalties if work was not completed on schedule. To replace the legally-binding and potentially time consuming ACO, the department introduced an alternative oversight document, the user friendly VCP system, for those who want to investigate or clean up sites with limited contamination.

Under the VCP, a party conducting a cleanup enters into an agreement with the department, called a Memorandum of Agreement (MOA), to establish the scope of cleanup activities. Such activities could range from a preliminary assessment and site investigation, to determine if contamination exists at a site, to remedial actions necessary to clean up the site. (http://www.state.nj.us/dep/srp/cas/)

Brownfields timeline

1993 – ASTM Phase I Environmental Site Assessment Standard

1995 – Michigan eliminates strict liability in favor of causal liability

1995 – ASTM Risk Based Corrective Action Standard

1995 – EPA Brownfields Action Agenda

EPA program under Superfund:

Pilot Programs

funded 300+ pilot programs, each funded at up to $200,000 over two years

Clarified Liability and Cleanup Issues

Issued guidance documents

Partnerships and Outreach

promoted public participation and community involvement in Brownfields decision making.

Job Development and Training

NJ Brownfields law

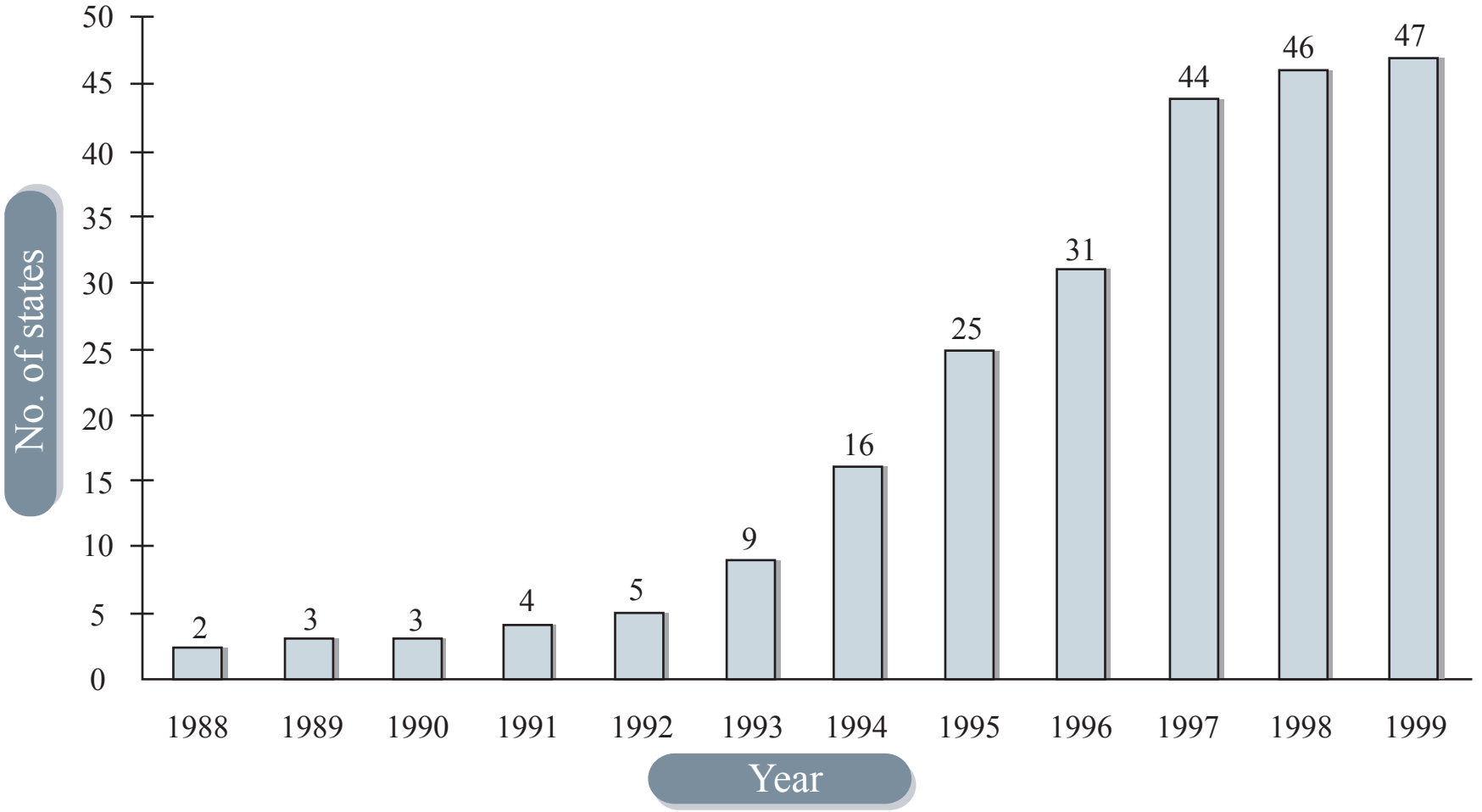
1998 – NJ Brownfields and Contaminated Site Remediation Act

- Innocent Purchaser Protection -- provides exemptions for Brownfield developers
- Covenant not-to-sue - NJDEP will agree in writing not to sue a Brownfield developer
- Development of Presumptive Remedies
- Tax incentives
- Incentives for Innovative Technology
- Enhanced Information for Geographic Information System (GIS)
- Lender Liability Exemption for USTs

Brownfield Reform and Small Business Liability Relief Act of 2001

- Small business liability exemption (de micromis exemption)
  Exempts PRPs disposing of <110 gallons of liquids or <200 pounds of solids and small businesses that disposed of only MSW from liability for NPL cleanup
- No Federal enforcement
  Parties doing cleanups under state voluntary programs are protected against future Superfund enforcement
- Migrating pollution
  Protection from having to clean up pollution from an off-site source
- Due diligence
  ASTM standards satisfy innocent landowner defense

Growth of state voluntary programs



Adapted from: Catherine A. Rakestraw. An Evaluation of the Risk-Based Approach to Brownfield Remediation and Development, Master's Project proposal submitted in partial fulfillment of the Requirements for the Master of Environmental Management degree in the Nicholas School of the Environment. Durham, North Carolina: Duke University, 2000. (http://www.ce.cmu.edu/Brownfields/Papers/MP_FINAL.htm).

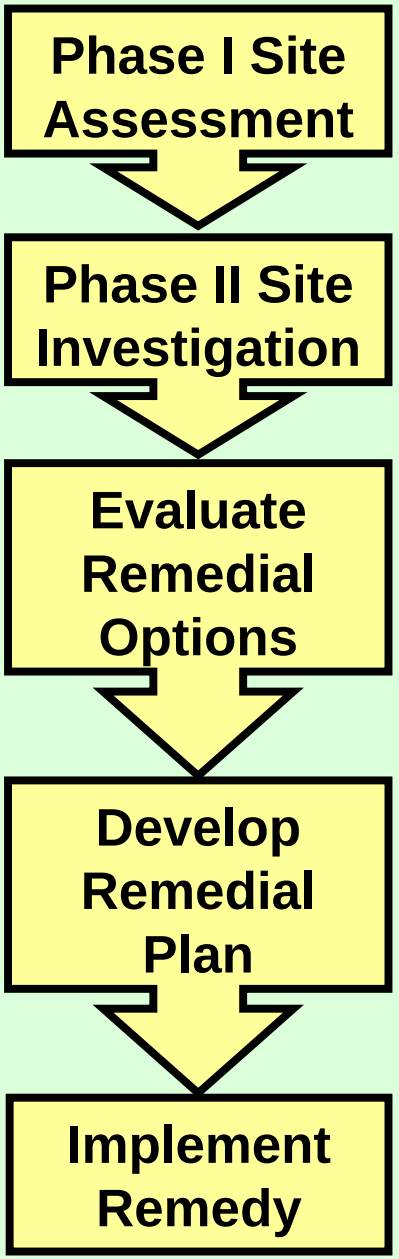
State voluntary cleanup programs

Allow PRPs to clean up sites on voluntary basis

Provide incentives for clean up:

- Expedited review process
- Flexibility in cleanup levels and methods
- Release from state liability
- Possible release from federal liability
- Financial assistance

Brownfields redevelopment process



Source: U.S. EPA, 2001. Technical Approaches to Characterizing and Cleaning Up Brownfields Sites. Report Number EPA/625/R-00/009. National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH. November 6, 2001. (http://www.epa.gov/ORD/NRMRL/Pubs/625R00009/625R00009.pdf)

Phase I site inspection

Exercise of “due diligence”

Due diligence = the process of inquiring into the environmental characteristics of a parcel of commercial real estate or other conditions, usually in connection with a commercial real estate transaction

Source for this and following slides: ASTM, 2000. Standard Practice for Environmental Site Assessments: Phase I Environmental Sites Assessment Process. Standard E 1527-00. American Society of Testing and Materials, West Conshohocken, Pennsylvania. July 2000.

Components of Phase I inspection

1. Records review
2. Site reconnaissance
3. Interviews
4. Report

Does not include sampling!

Process intended to satisfy requirements of CERCLA innocent purchaser defense

Records review

Review of local historical records to identify previous owners, tenants, and operators at the site

Request of local, state, and federal environmental records

Review of aerial photographs, fire insurance maps

Site reconnaissance

Visit to site

Physically observe structures, operations

Features to note:

- Storage tanks (USTs, UST vent pipes, and ASTs)
- Drums, containers
- Stains, corrosion
- Stressed vegetation
- Septic systems, dry wells
- Lagoons, pits, waste piles
- PCB transformers

Interviews

Interview owners and occupants

Request historical information, documents

Interview local and state officials

Evaluation and report

Necessary to document activities in site assessment, documents obtained, and procedures followed

Report includes:

- Scope of investigation
- Findings – summarize known or suspect environmental conditions
- Opinion – professional opinion of property impact on the environment
- Limitations – indicate limitations in survey, lack of samples as qualifiers on report

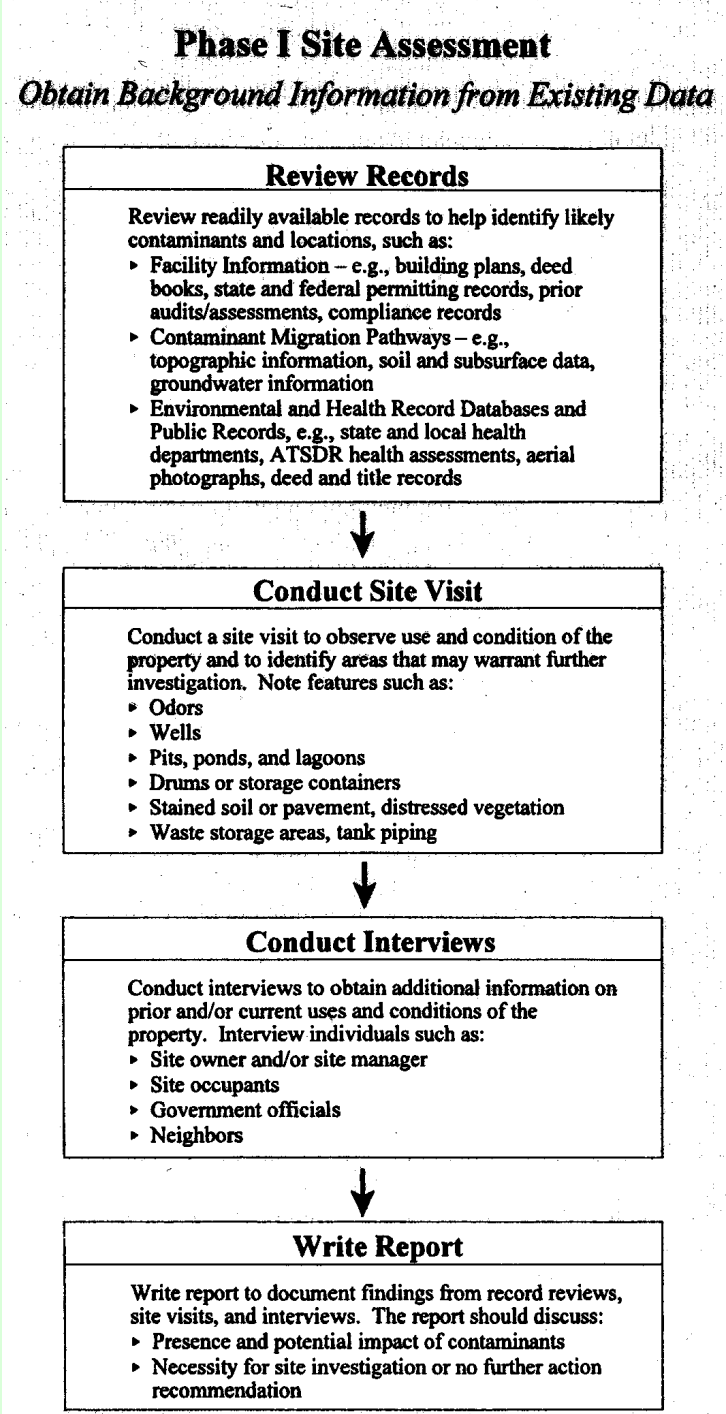
Phase I assessments: Caveat engineer!

There is great potential for professional liability for Phase I report author!

Work is usually done for fixed price

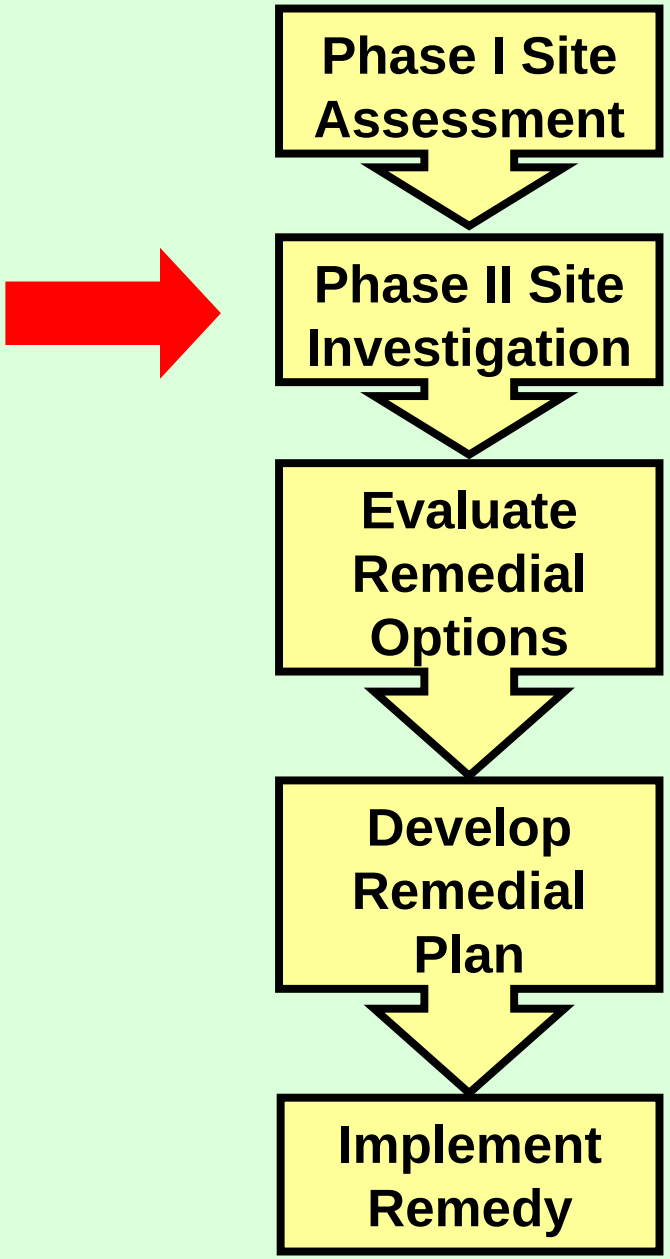
Business is highly competitive:
price for Phase I is low (~$1000)

EPA flow chart for Phase I Site Assessment



Source: U.S. EPA, 2001. Technical Approaches to Characterizing and Cleaning Up Brownfields Sites. Report Number EPA/625/R-00/009. National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH. November 6, 2001. (http://www.epa.gov/ORD/NRMRL/Pubs/625R00009/625R00009.pdf)

Brownfields redevelopment process



Source: U.S. EPA, 2001. Technical Approaches to Characterizing and Cleaning Up Brownfields Sites. Report Number EPA/625/R-00/009. National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH. November 6, 2001. (http://www.epa.gov/ORD/NRMRL/Pubs/625R00009/625R00009.pdf)

Phase II Site Investigation

Follow-up when a Phase I Site Assessment identifies conditions of environmental consequence

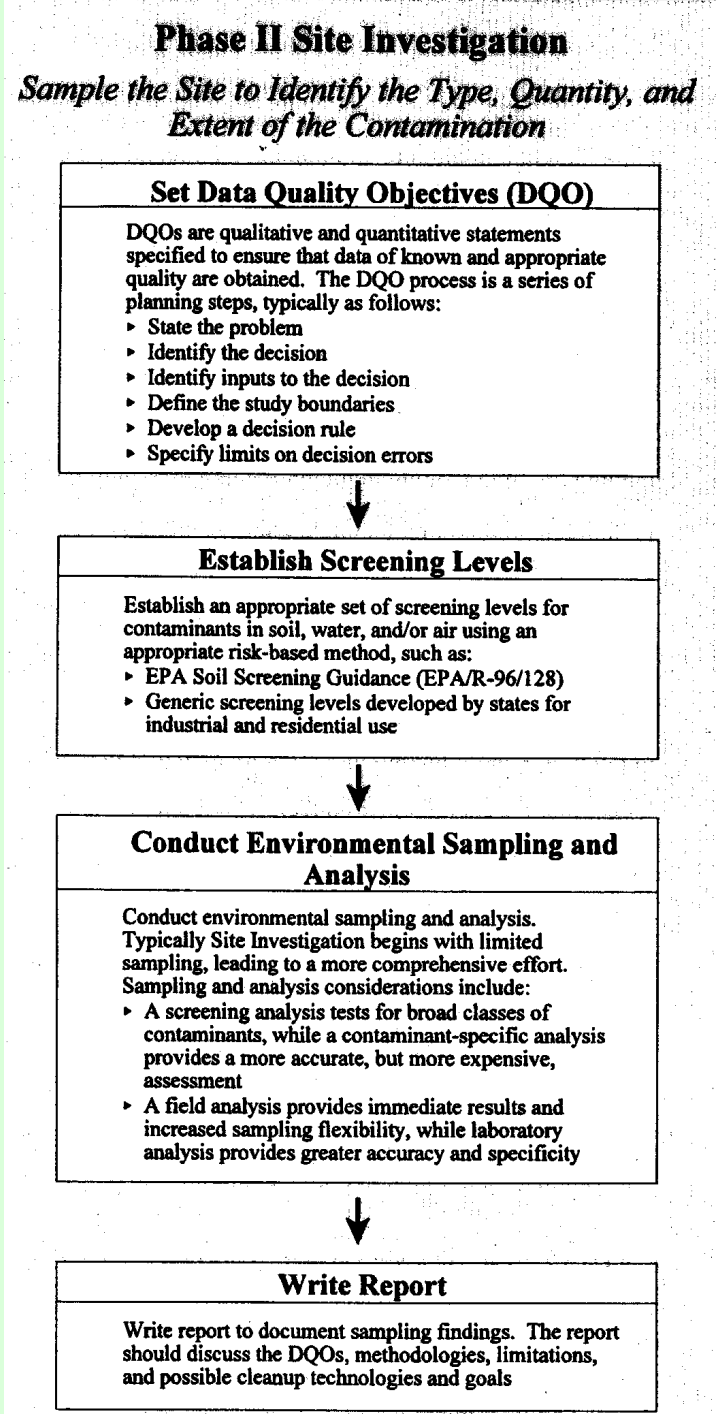
Purpose: identify nature and extent of contamination in order to make informed business decisions and satisfy Superfund innocent purchaser defense

Components of Phase II

1. Develop scope of work
2. Complete assessment activities (site sampling)
3. Evaluate and present data
4. Present findings and conclusions

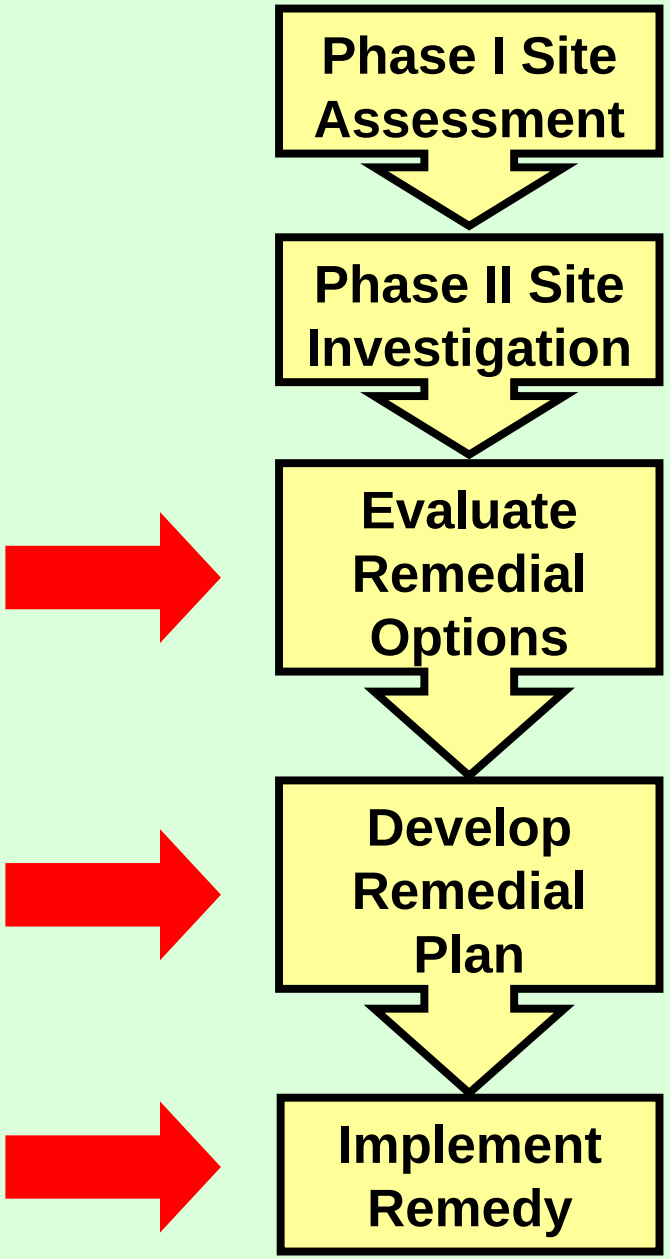
Source: ASTM, 1998. Standard Practice for Environmental Site Assessments: Phase II Environmental Sites Assessment Process. Standard E 1903-97. American Society of Testing and Materials, West Conshohocken, Pennsylvania. February 1998.

EPA flow chart for Phase II Site Investigation



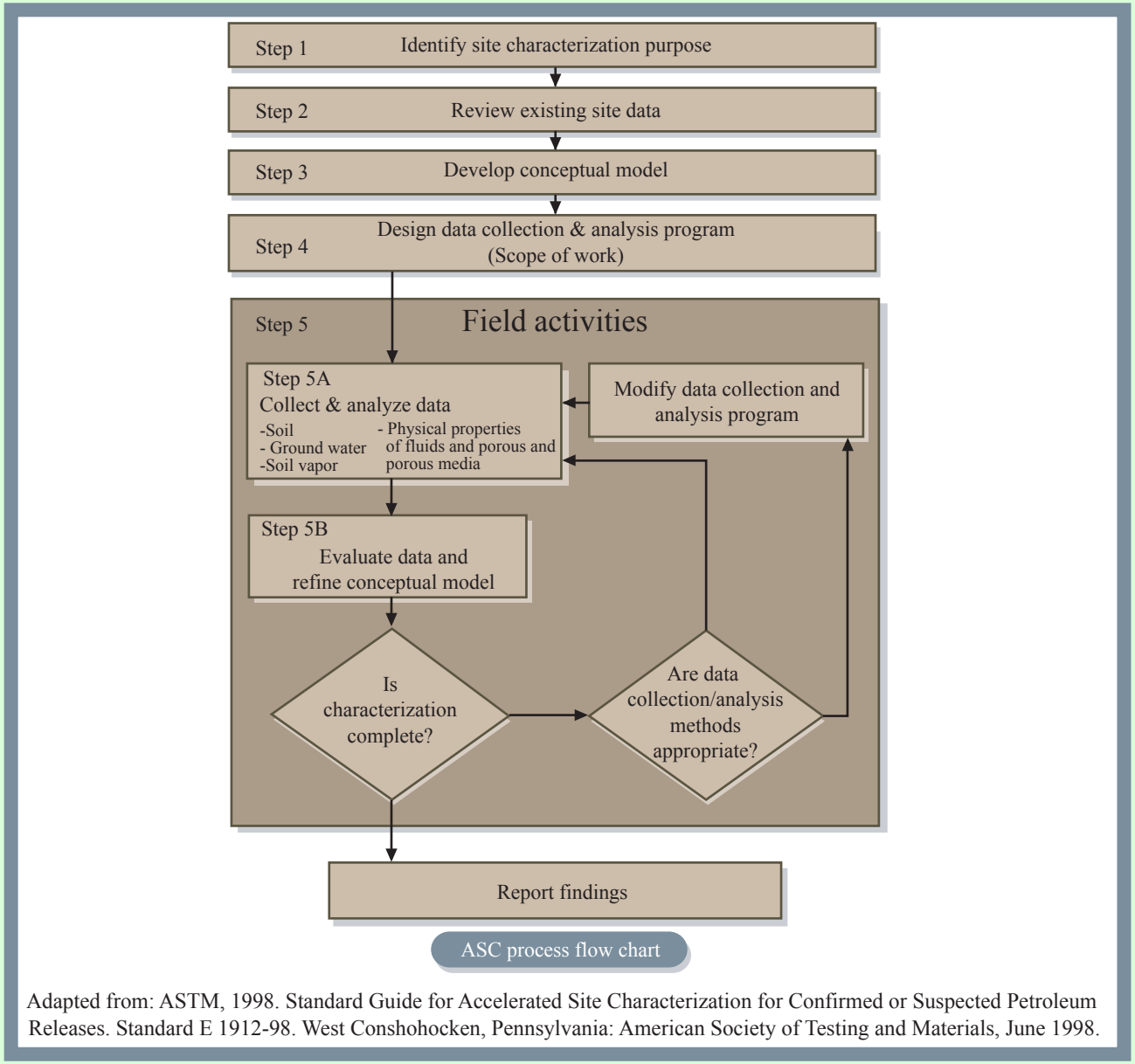
Source: U.S. EPA, 2001. Technical Approaches to Characterizing and Cleaning Up Brownfields Sites. Report Number EPA/625/R-00/009. National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH. November 6, 2001. (http://www.epa.gov/ORD/NRMRL/Pubs/625R00009/625R00009.pdf)

Brownfields redevelopment process



Source: U.S. EPA, 2001. Technical Approaches to Characterizing and Cleaning Up Brownfields Sites. Report Number EPA/625/R-00/009. National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH. November 6, 2001. (http://www.epa.gov/ORD/NRMRL/Pubs/625R00009/625R00009.pdf)

Accelerated Site Characterization (for petroleum releases)



ASC process flow chart

Adapted from: ASTM, 1998. Standard Guide for Accelerated Site Characterization for Confirmed or Suspected Petroleum Releases. Standard E 1912-98. West Conshohocken, Pennsylvania: American Society of Testing and Materials, June 1998.

Superfund Accelerated Cleanup Model

Introduced in 1992

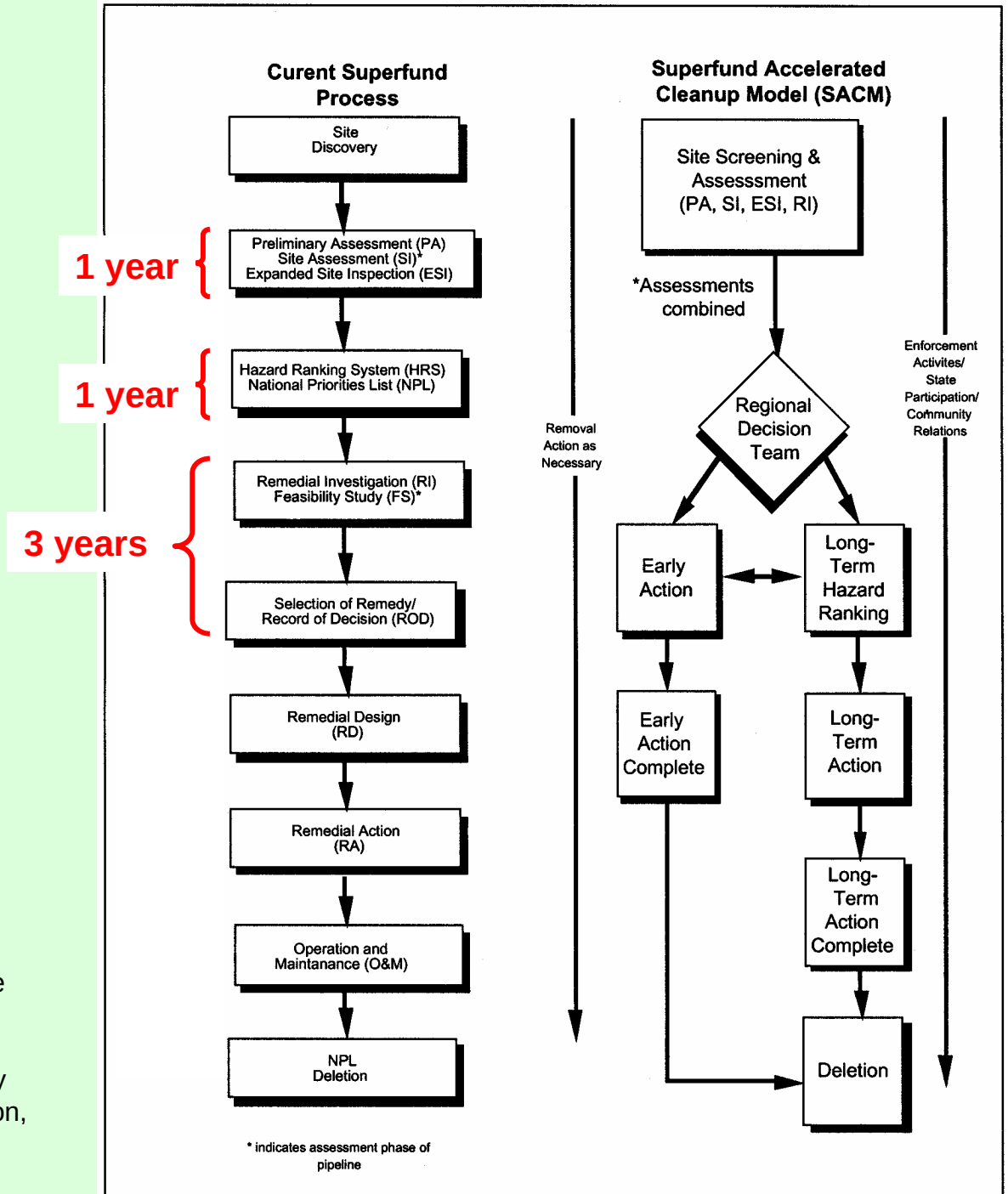
Designed to speed up site remediation

Includes publication of presumptive remedies for certain generic site types

Goals of SACM

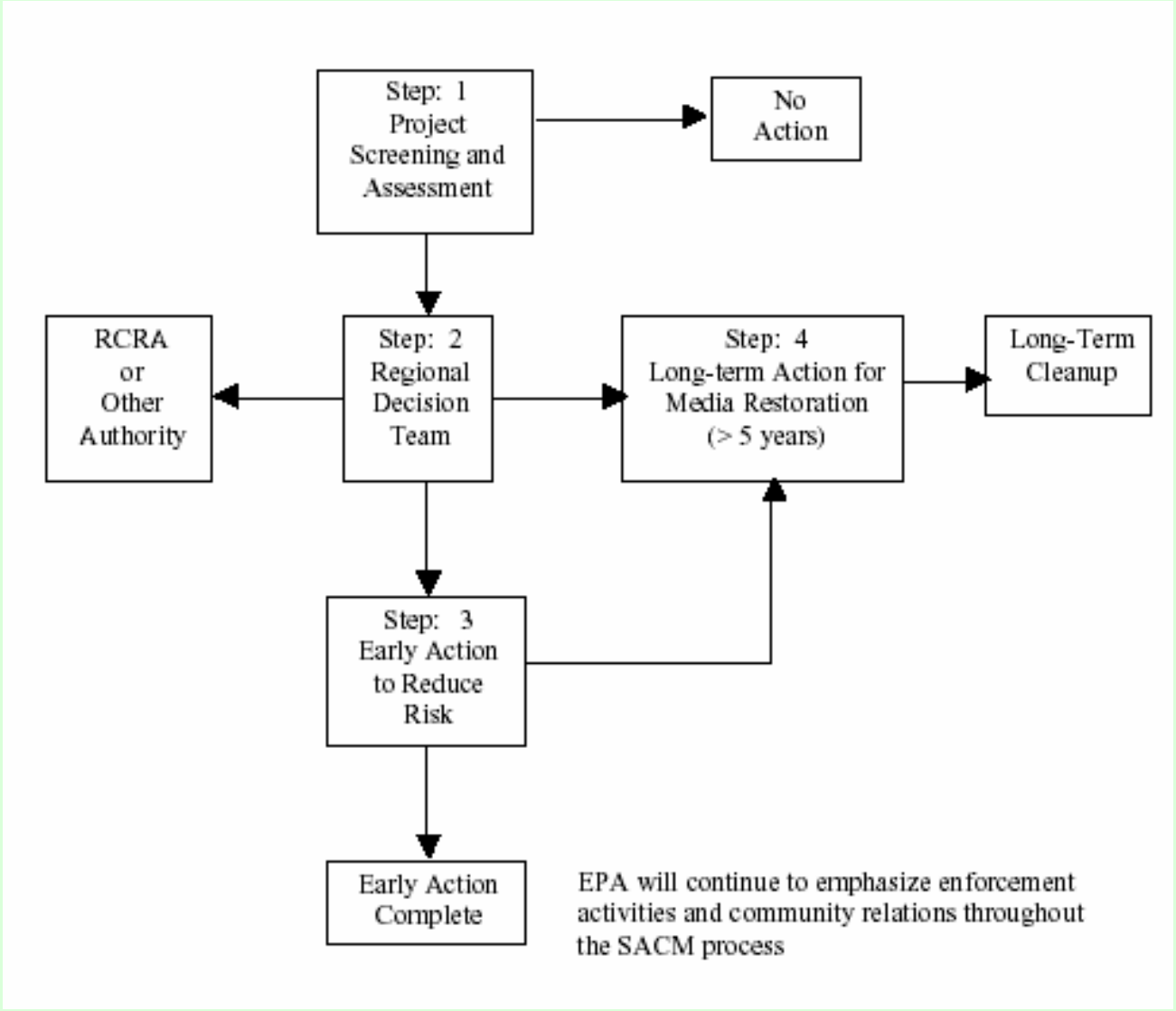
- Non-duplicative site assessment
- Prompt risk reduction
- Coordination of response planning between removal action and remedial action
- Early initiation of enforcement activities
- Early public notification and participation

Superfund Accelerated Cleanup Model



Source: U.S. EPA, 1998. RCRA, Superfund & EPCRA Hotline Training Manual. Introduction to the Superfund Accelerated Cleanup Model. Report Number EPA 530-R-98-025. NTIS Number PB98-963 233. Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. June 1998.

Superfund Accelerated Cleanup Model



Source: http://www.nwd.usace.army.mil/pm/derp/fmfig313.pdf

Presumptive remedies

United States Environmental Protection Agency

Office of Solid Waste and Emergency Response

Directive No. 9355.0-49FS
EPA 540-F-93-035
PB 93-963339
September 1993

EPA

Presumptive Remedy for CERCLA Municipal Landfill Sites

Office of Emergency and Remedial Response
Hazardous Site Control Division 5203G

Quick Reference Fact Sheet

Since Superfund's inception in 1980, the remedial and removal programs have found that certain categories of sites have similar characteristics, such as types of contaminants present, types of disposal practices, or how environmental media are affected. Based on information acquired from evaluating and cleaning up these sites, the Superfund program is undertaking an initiative to develop presumptive remedies to accelerate future cleanups at these types of sites. The presumptive remedy approach is one tool of acceleration within the **Superfund Accelerated Cleanup Model (SACM).**

Presumptive remedies are preferred technologies for common categories of sites, based on historical patterns of remedy selection and EPA's scientific and engineering evaluation of performance data on technology implementation. The objective of the presumptive remedies initiative is to use the program's past experience to streamline site investigation and speed up selection of cleanup actions. Over time presumptive remedies are expected to ensure consistency in remedy selection and reduce the cost and time required to clean up similar types of sites. Presumptive remedies are expected to be used at all appropriate sites except under unusual site-specific circumstances.

Presumptive remedies

Municipal landfills	Cap with leachate and gas collection
VOCs in soils	Soil vapor extraction, multi-phase extraction
Wood treating operations	Bioremediation, thermal desorption, incineration
Contaminated ground water	Phased approach, ex-situ treatment
Metals in soils	Reclamation/recovery, immobilization

Highlight 1: Components of the Presumptive Remedy: Source Containment

- Landfill cap;
- Source area ground-water control to contain plume;
- Leachate collection and treatment;
- Landfill gas collection and treatment; and/or
- Institutional controls to supplement engineering controls.

One Cleanup Program

Announced April 8, 2003:

EPA's Vision for the One Cleanup Program

The nation's cleanup programs will work in harmony to achieve effective and efficient cleanups that protect human health and the environment, and support revitalization of communities. Cleanup programs will coordinate to promote sound and protective remedies, shared science and technical approaches, seamless public information systems, and the mutual acceptance of policies and results.

Goals of “One Cleanup”

1. More consistent and effective cleanups
   - Priority on returning the waste site to beneficial and productive use
2. Clear and more useful information about cleanups
   - Make all information about any site more accessible and understandable to citizens most impacted
3. Better cross-program performance measures
   - Assure more consistency and efficiency in cleanups under CERCLA, RCRA, UST Program