New York State Department of Environmental Conservation

Project Management Work Plan - Appendix F

Techem, Inc. Site
Phase I Remedial Investigation and Feasibility Study

CITIZEN PARTICIPATION PLAN

TECHEM, INC. SITE
SITE #1-30-097
NASSAU COUNTY
NEW YORK

New York State Department of Environmental Conservation
Work Assignment D004439-5

Prepared by:

Malcolm Pirnie, Inc.
43 British American Blvd.
Latham, NY 12110

April 2007
0266356

INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS AND CONSULTANTS

MALCOLM PIRNIE

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1.0 INTRODUCTION

This Citizen Participation Plan (CPP) has been developed to provide an outline and guidance for citizen participation in the continued investigations at the Techem, Inc. Site (No. 1-30-097) under a New York State Department of Environmental Conservation (NYSDEC) Standby Contract and, if necessary, to plan and conduct environmental cleanup activities at this site (Project). The CPP was prepared in accordance with USEPA guidelines, New York State regulations (6 NYCRR Part 375), the New York State Department of Environmental Conservation (NYSDEC) guidance document, *New York State Inactive Hazardous Waste Site Citizen Participation Plan* (August, 1988), and NYSDEC Municipal Assistance for Environmental Restoration Projects Procedures Handbook.

Citizen participation activities are planned to promote communication, understanding and involvement between the surrounding community, the Village of New Hyde Park, and the NYSDEC. The citizen participation activities are intended to address the following questions:

- What concerns does the public have about the Project?
- Who is interested in or affected by the Project?
- What are the potential opportunities for redevelopment of properties in the Project area?
- What information does the public need to know about the Project?
- What information can the public contribute to the Project?

A critical part of the success of any public program is gaining the trust of the public. Through this CPP, the NYSDEC is committed to an interactive citizen participation program in support of the Project.

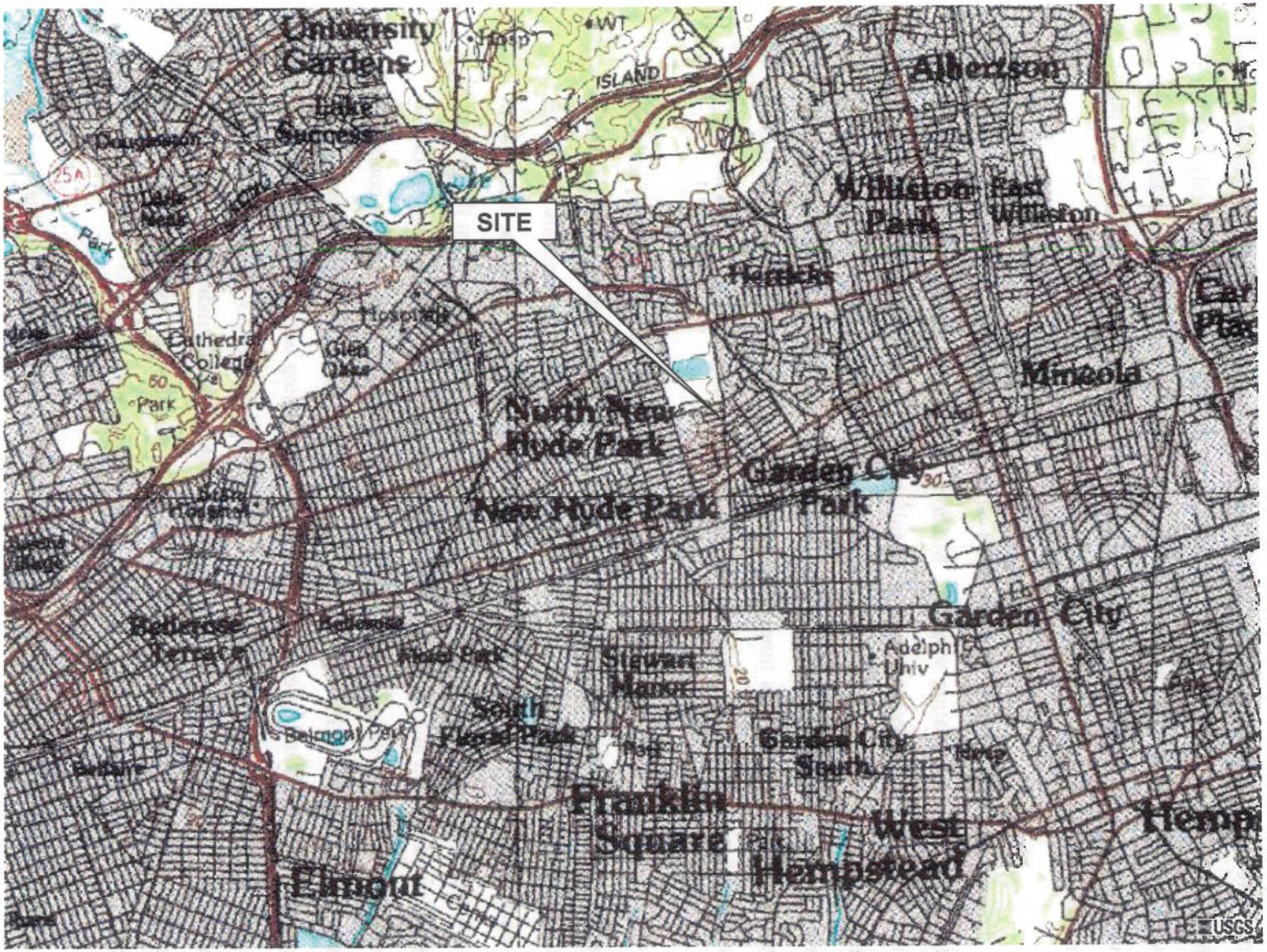
2.0 PROJECT BACKGROUND

The New York State Department of Environmental Conservation (NYSDEC) has issued a Remedial Investigation (RI) Work Assignment for the Techem, Inc. Site (No. 1-30-097), located at 1840 Falmouth Avenue in the Village of New Hyde Park, Nassau County, New York (Site). Malcolm Pirnie, Inc. (Malcolm Pirnie) has prepared this CPP following acceptance of the Work Assignment.

The overall RI includes phased field investigations to characterize the Techem, Inc. Site and to evaluate the nature and extent of contamination. The RI will also assess the extent that contaminants present at the Site may pose a risk to human health and the environment. Work performed under Phase I of the RI will include field support activities, review of previously documented work and investigations at the Site and surrounding areas, and development of a base map for use during this and subsequent investigations. A summary of the scope of work for the RI field activities, including the number of environmental samples, method of sampling, and type of analysis, is provided in Section 3.

2.1 SITE DESCRIPTION AND HISTORY

The Techem site is located at 1840 Falmouth Avenue, New Hyde Park, in Nassau County, New York (Figure F-1). The site is located within a mixed industrial and residential area. The site is the former location of Techem, Inc. The site property is 0.18 acres. A chain-link fence surrounds the southern and eastern perimeter of the site. The site contains a one-story slab on-grade masonry block building that was constructed in approximately 1955. The building has an attached metal enclosure on the south side of the structure. The metal enclosure is approximately the same width of the Techem building and appears to extend to the southern border of the property. With the exception of two grass covered areas on the north side of the Techem building that total



SOURCE: terraserver.microsoft.com

APROXIMATE SCALE: 1 INCH = 1 MILE

MALCOLM PIRNIE	TECHEM, INC. NEW HYDE PARK, NEW YORK	**SITE LOCATION**	APRIL 2007 FIGURE F-1

approximately 200 square feet (ft^2), the site appears to be covered either by concrete or asphalt. The west side of the building contains a covered narrow (approximately 4 feet) alley. The alley is secured by locked metal door, however, two approximately 275 gallon above ground storage tanks (ASTs) were observed in the alley through a window in the door during a March 2007 site visit.

The Techem facility formerly manufactured acid-based chromium, cadmium, cyanide, nickel, and zinc electroplating solutions. Materials used in the manufacturing solutions included: chromic acid, hydrochloric acid, sulfuric acid, cadmium oxide, caustic soda, sodium cyanide, sodium stannate, copper cyanide, ethylenediamine and ammonium hydroxide. Techem Inc. occupied the site from 1973 trough 1994 and was owned by Mr. Sidney Gerwertz. During this time, Mr. Gerwertz claimed that he produced no wastes. Previous investigations found no documentation of any wastes manifested from the site.

In 1982, 1983, 1984, and 1992 Nassau County Department of Health (NCDOH) collected samples containing heavy metals from the Techem site. In 1982 samples were collected from a "drywell" at the site which contained elevated concentration of metals. However, it is unclear whether this referred to a sump located on the south side of the Techem site or a cistern located at the northeast corner of the site. Sludge samples from the cesspool were collected in 1983 and contained metals contaminants. The cesspool was reportedly cleaned in 1984. In 1984, Techem employees reportedly rinsed containers containing metals contaminants onto Falmouth Avenue. In 1992, NCDOH conducted sampling of a sump located on the south side of the Techem site. Sampling was also conducted in the sump area by the United State Environmental Protection Agency (USEPA) in 1993. Samples from the sump area contained concentrations of metals indicating a substantial threat to human health and the environment. The sump was reportedly sealed with concrete by Mr. Gerwertz in 1993 without regulatory approval.

The USEPA conducted a site inventory in 1993 and reported that approximately 1500 small containers and 1250 drums were on the Techem site. A two phase removal was

conducted by the USEPA at the site in 1994 and 1995. The first phase consisted of removal of hazardous chemicals identified during the site inventory. The second phase consisted of soil removal with a goal to eliminate immediate threats to human health. Soil beneath the former sump was excavated and removed to a depth of 5.5 feet below ground surface (bgs). Soil was also excavated to a depth of 2 feet bgs from two areas that apparently contained exposed soil on the south side of the building. In addition, soil was excavated from the alley located on the western side of the Techem building. Soil removal in this area ranged from 2 feet to 4 feet bgs. The excavations were backfilled with clean soil and resurfaced with concrete.

In 1998, a limited Phase II Environmental Site Assessment (ESA) was conducted at the Techem site by General Consolidated Industries (GCI). One soil boring was advanced in the vicinity of the cesspool during the Phase II. Results from the soil boring sample showed concentrations of metals greater than NYSDEC Standards.

In 1999, a NYSDEC Preliminary Site Assessment (PSA) was conducted to evaluate conditions at the site following the USEPA removal actions. The PSA included soil and groundwater sampling and confirmed the presence of heavy metals in soil and groundwater at the site greater than the applicable NYSDEC Standards. In addition, volatile organic compounds (VOCs) were present in groundwater samples collected from temporary wells located in the vicinity of the former sump at concentrations greater than the applicable NYSDEC Standards.

2.2 ADJACENT SITES

The Techem site is bordered by U.S. Limousine Service to the west. During the March 2007 site visit, vehicles parked on the north side of this building appeared to be awaiting auto body repairs and olfactory evidence of painting processes was present. Tip Top Diesel and Fleet Service are located south of the Techem building on Gilford Avenue (Figure F-2). Fuel pumps were noted on the south side of this building during the site

SOURCE: Google Earth; 2007 New York GIS

MALCOLM PIRNIE	TECHEM, INC. NEW HYDE PARK, NEW YORK	**ADJACENT PROPERTIES**	APRIL 2007 FIGURE F-2

visit. Based on information presented in the 2000 NYSDEC PSA Report, Martack and 4 Seasons Fire Restorations are located to the east of the Techem site on Denton Avenue; Jerico Die and Mold is located to the southeast on Gilford Avenue.

3.0 PROPOSED INVESTIGATIONS AND SITE ACTIVITIES

A Project Management Work Plan (PMWP) was prepared to complete Phase I of the Techem, Inc. RI/FS. The PMWP details the scope of work for the Phase I RI, including groundwater monitoring, soil sampling, soil vapor intrusion study, site survey, and development of the final remedial investigation and feasibility program. The Phase I Remedial Investigation tasks are summarized in the following sections.

3.1 PRE-PROJECT MANAGEMENT WORK PLAN INVESTIGATION

Malcolm Pirnie participated in a scoping meeting and site visit on March 7, 2007 in which the Project Manager and Deputy Project Manager discussed the Scope of Work for the project with the NYSDEC and NCDOH Project Manager.

Admittance to the Techem building and property was not possible since the site access agreement with the property owner was not formalized. Therefore, once an access agreement is available, an additional site visit will be necessary to evaluate locations for interior samples, and consider the appropriate methods for interior sample collection. During a visual assessment of the site property and building from outside of the perimeter fence, a significant amount of equipment and debris was noted in areas where proposed sampling would occur. The equipment and debris were located in areas that would interfere with the proposed sampling locations and the mobilization of the drilling rig. Therefore, it is expected that the site will need to be cleared of debris and the equipment moved to facilitate implementation the RI.

After evaluating the information obtained from the background review, site visit, and the scoping meeting, Malcolm Pirnie has developed this proposed Project Management Work

Plan and is submitting it for review. Upon receipt of the NYSDEC's comments, if any, Malcolm Pirnie will finalize the PMWP.

3.2 LITERATURE SEARCH

Malcolm Pirnie will review all available information concerning past activities and investigations at the Site. The data will be used to build a comprehensive historic and physical profile of the Site.

3.3 BASE MAP DEVELOPMENT

A base map of the Site will be prepared using a New York State Licensed Surveyor. The Site map will include the Site property, footprints of Site buildings and structures, relevant features (drains, hydrants, etc.), right-of way (ROW) easements, and control points.

3.4 GROUNDWATER MONITORING PROGRAM

The groundwater monitoring program will be used to assess hydrogeologic Site conditions, including groundwater flow and velocity, will provide information on the nature and extent of groundwater contamination, and will monitor contaminant migration in the groundwater at the Site and adjacent sites.

A monitoring well network will be developed from the permanent wells installed during the RI. Borings for the new monitoring wells will be logged to correlate screened intervals with hydrostratigraphic units present in the vicinity of the Site. Groundwater samples collected during the groundwater monitoring program will be analyzed for target compound list (TCL) volatile organic compounds (VOCs) and target analyte list (TAL) metals.

3.5 WATER LEVEL SURVEY

Groundwater levels will be measured in on-Site wells in conjunction with the groundwater monitoring program discussed above. Data will be measured to the nearest hundredth of an inch and recorded in dedicated field log books. Water levels will be used to calculate groundwater elevations across the Site to facilitate an evaluation of groundwater flow conditions.

3.6 SOIL SAMPLING PROGRAM

Based on a review of previous soil sampling data, Malcolm Pirnie will develop a soil sampling program for the Techem, Inc. Site. The soil sampling program includes the following:

- Surface soil sampling for analysis of TAL metals.
- Subsurface soil sampling for analysis of TCL VOCs and TAL metals.

3.7 SOIL VAPOR INTRUSION STUDY

Indoor air, ambient air, and sub-slab soil vapor samples will be collected to evaluate the potential for soil vapor intrusion of VOCs from sub-slab sources. Indoor air samples will be collected from within the building over a 24-hour period, with at least one air indoor air sample located in each room/area of the building. One ambient air sample will be collected from outside of the building on-Site to establish background VOC concentrations for the site. The ambient air sample will be collected concurrently and in the same manner as the indoor air samples.

Soil vapor monitoring points will be distributed throughout the building during the same day that the indoor and ambient air samples are collected. The soil vapor samples will be collected from just below the concrete slab through a hole drilled with a hammer drill, with each soil vapor point being sampled over a two-hour period.

4.0 EDUCATION AND PARTICIPATION OF STAKEHOLDERS

Community support is essential for successful site clean-up and redevelopment. Community support can only be obtained by making all pertinent information available, and actively seeking community involvement. Public participation is vital for the success of this project, as the Site is part of the community. Mechanisms that NYSDEC will use to involve the community in the Project will include:

- Fact sheets;
- Media exposure through press releases, newspaper articles, and/or radio and television reports;
- Public meetings and information sessions; and
- Compilation of a list of interested parties and the establishment of a document repository for project information.

4.1 SITE ISSUES AND COMMUNICATION NEEDS

Project staff will perform citizen participation activities to inform and involve the affected and interested community in the investigation and remediation activities for the Site. A major emphasis of the citizen participation program is to conduct citizen participation activities that are responsive to significant issues of community concern, and to major information needs of both the community and NYSDEC.

Understanding issues of public concern and public information needs will help NYSDEC to:

- Effectively conduct the citizen participation activities required by law, regulation and policy; and
- Choose and effectively conduct citizen participation activities beyond the requirements that may be necessary to construct and implement an effective citizen participation program for the Site.

Issues that concern the community include the effects of the site on residential and commercial property values and possible impacts on the nearby Glen Cove Creek. Interested people are encouraged to contact project staff at any time with additional issues or information needs, to recommend how citizen participation activities can effectively be conducted, or to suggest additional citizen participation activities that may be needed to improve the outreach effort.

4.2 DOCUMENT REPOSITORY

All project-related documents will be made available for public review and comment at document repositories. Document repositories will be established at the following locations:

- Hillside Public Library;
- NYSDEC Region 1 Office; and
- New Hyde Park Village Hall.

Specific information for each document repository is presented in Attachment F-1. It is anticipated that the following documents will be prepared:

- Project Management Work Plan.
- Citizen Participation Plan
- Field Sampling Plan
- Health and Safety Plan

4.3 CONTACT LIST

A preliminary project contact list has been developed to ensure that potentially interested parties are aware of Project activities. The contact list, which is presented in Attachment F-2, contains local, state, and federal government officials and local media outlets (newspaper, radio, and television). This contact list will be updated throughout the Project to include other interested and/or affected parties.

4.4 COMMUNITY OUTREACH

To educate stakeholders and the community about the RI and Site activities, Malcolm Pirnie and the NYSDEC will conduct environmental education outreach meetings at key points throughout the Project. Notice of the meetings will be mailed to potentially interested parties listed in Attachment F-2. Specific outreach activities that will be conducted include:

- A fact sheet which will briefly describe the Site, RI objectives and activities planned for the RI will be mailed to the Contact List (Attachment F-2) upon submission of the Final Project Management Work Plan for the Site.
- In addition, the fact sheet will indicate the location of the local document repository and identify appropriate points of contact.
- Upon completion of project activities, the NYSDEC will prepare the Proposed Remedial Action Plan (PRAP) which will summarize the remedial options for the Site and propose a specific remedial alternative for implementation. A copy of the PRAP will be placed in the local document repository and a copy will be mailed to the Contact List (Attachment F-2). There will be a 45 day comment period prior to implementing the proposed remedial alternative. A public meeting will be held during the comment period to review the PRAP and to address any questions or concerns. This meeting will be attended by representatives of the Village of New Hyde Park and the NYSDEC.
- Following the selection of the remedial alternative for the Site, the NYSDEC will prepare the Record of Decision (ROD). A copy of the ROD will be placed in the local document repository and a fact sheet briefly describing the selected remedy will be mailed to the Contact List (Attachment F-2). The fact sheet will also indicate the location of the local document repository and identify appropriate points of contact.

5.0 GLOSSARY OF TERMS

A glossary, which defines terms associated with New York's hazardous waste site citizen participation program and important elements of the hazardous waste site remedial program, is provided in Attachment F-3.

ATTACHMENT F-1

DOCUMENT REPOSITORY

ATTACHMENT F-1

DOCUMENT REPOSITORIES

Copies of documents will be placed at the locations listed below for public viewing.

Hillside Public Library
155 Lakeview Road
New Hyde Park, New York 11040-3003
Phone: 516-355-7850
Hours:
Monday - Friday, 10:00 am – 8:45 pm
Saturdays, 10:00 am – 4:45 pm
Sundays – 12:00 pm – 3:45 pm

New York State Department of Environmental Conservation
Region 1 Office
SUNY at Stony Brook
50 Circle Road
Stony Brook, New York 11790-3409
Phone: (631) 444-0204

New Hyde Park Village Hall
1420 Jericho Turnpike
New Hyde Park, New York 11040
Phone: (516) 354-0022

ATTACHMENT F-2

CONTACT LIST

ATTACHMENT F-2

CONTACT LIST

NEWSPAPERS

New Hyde Park Illustrated
Margaret Whitely, Editor
www.antonnews.com/illustratednews/

Daily News
450 West 33rd Street
New York, New York 10001
(212) 210-2100

New York Times
Byron Calame, Public Editor
229 West 43rd Street
New York, New York 10036
(212) 556-1234

New York Times (General)
(212) 556-1234

Newsday
John Mancini, Editor
235 Pinelawn Road
Melville, New York 11747
editor@newsday.com

Newsday (General)
(631) 843-2000

el diario/LA PRENSA
Spanish Language Daily Newspaper
345 Hudson Street 13th Floor
New York, New York 10014
(212) 807-4600

RADIO STATIONS

WNYU Public Radio, 89.1FM
New York University
194 Mercer Street, 5th Floor
New York, New York 10012

WKCR Public Radio, 89.8FM
2920 Broadway
Mail Code 2612
New York, New York 10027

WFUV Public Radio, 90.7 FM
Fordham University
Bronx, New York 10458
(718) 817-4550

WNYE Public Radio, 91.5FM
Attn: Arick Wierson
75 Park Place, 9th Floor
New York, New York 10007
(212) 788-6600

WNYC Public Radio, 93.9FM
One Centre Street, 24th Floor
New York, New York 10007
(212) 669-3333

WBAI/Pacifica Radio, 99.5FM
120 Wall Street, 10th Floor
New York, New York 10005
(212) 209-2800

TELEVISION STATIONS

WABC-TV (Channel 7, ABC)
7 Lincoln Square
New York, New York 10023
(212) 456-1000

WNBC-TV (Channel 4, NBC)
30 Rockefeller Plaza
New York, New York 10012
(212) 664-4444

WCBS-TV (Channel 2, CBS)
524 West 57 Street
New York, New York 10019
(212) 975-4321

WNYW-TV (Channel 5, Fox)
205 East 67th Street
New York, New York 10021
(212) 452-5800

WLIW (Channel 21, PBS)
450 West 33rd Street
New York, New York 10001
(212) 560-8021

ELECTED OFFICIALS

U.S. Senate

Senator Charles E. Schumer
313 Hart Senate Building
Washington D.C. 20510
(202) 224-6542

State Office
Leo W. O'Brien Federal Office Building
Room 420
Albany, New York 12207
(518) 431-4070

Regional Office
145 Pine Lawn Road #300
Melville, New York 11747
(631) 753-0978

Senator Hillary R. Clinton
476 Russell Senate Office Building
Washington D.C. 20510
(202) 224-4451

State Office
Leo W. O'Brien Federal Office Building
1 Clinton Square
Room 821
Albany, New York 12207
(518) 431-0120

Regional Office
155 Pinelawn Road
Suite 250 North
Melville, New York 11747
(631) 431-0120

U.S. House of Representatives

Representative Carolyn McCarthy
New York 4th District
106 Cannon House Office Building
Washington D.C. 20515
(202) 225-5516

District Office
200 Garden City Plaza, Suite 320
Garden City, New York 11530
(516) 739-3008

U.S. Senate (Con't)

State of New York

Governor Eliot Spitzer
Office of the Governor
Executive Chamber, State Capitol
Albany, New York 12224
(518) 474-8390

Lieutenant Governor David Paterson
Office of the Lieutenant Governor
State Capitol
Albany, New York 12224
(518) 474-4623

Attorney General Andrew Cuomo
Office of the Attorney General
State Capital
Albany, New York 12224
(518) 474-7330

Assemblyman Thomas McKevitt
17th District
Legislative Office Building, Room 534
Albany, New York 12248
518-455-5341

District Office
224 Seventh Street
Suite 200
Garden City, New York 11530
(516) 739-5119

Senator Craig M. Johnson
7th District
Legislative Office Building, Room 604
Albany, New York 12248
(518) 455-2622

Nassau County District
151 Herricks Road, Suite 202
Garden City, New York 11040
(516) 746-5923

Nassau County Officials

Thomas R. Suozzi
Nassau County Executive
1 West Street
Mineola, New York 11501
(516) 571-3131

Richard J. Nicolello
Nassau County Legislator
Legislative District 9
1 West Street
Mineola, New York 11501
(516) 571-6209

Maureen O'Connell
Nassau County Clerk
240 Old Country Road
Mineola, New York 11501
(516) 571-2663

Kathleen Rice
Nassau County District Attorney
240 Old Country Road
Mineola, New York 11501
(516) 571-2994

Howard Weitzman
Nassau County Comptroller
240 Old Country Road
Mineola, New York 11501
(516) 571-2679

Village of New Hyde Park – Village Officials

Mayor Daniel P. Petruccio
1420 Jericho Turnpike
New Hyde Park, New York 11040
(516) 354-0022

Village of New Hyde Park – Village Officials (Con't)

Jim McCloat, Superintendent

Department of Public Works
1420 Jericho Turnpike
New Hyde Park, New York 11040
(516) 354-0064

Patrick Farrell, Village Clerk/Treasurer
1420 Jericho Turnpike
New Hyde Park, New York 11040
(516) 354-0022

Patricia Sheridan, Chairman
Department of Parks and Recreation
1420 Jericho Turnpike
New Hyde Park, New York 11040
(516) 354-0022

Rich Belzeti, Superintendent
Building Department
1420 Jericho Turnpike
New Hyde Park, New York 11040
(516) 354-0022

PUBLIC AGENCY CONTACTS

New York State Department of Environmental Conservation

Bill Fonda, Regional Citizen Participation Specialist
New York State Department of Environmental Conservation
Region 1 Office
Building 40
State University of New York
50 Circle Road
Stony Brook, New York 11790-3409
(631) 444-0350

New York State Department of Environmental Conservation (Con't)

New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7013
(518) 402-8545

Heide-Marie Dudek, Project Manager
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233
(518) 402-9622

New York State Department of Health

New York State Department of Health
Corning Tower
Empire State Plaza
Albany, New York 12237
(518) 486-9002

Center for Environmental Health
New York State Department of Health
Flanigan Square, 547 River Street
Troy, New York 12180-2216
(800) 458-1158

Metropolitan Regional Office
New York State Department of Health
Court House Corporate Center
320 Carleton Avenue
Suite 500 – 5th Floor
Central Islip, New York 11722
(631) 851-4300

New York State Department of Health (Con't)

Brian Devine, Regional Environmental Health Program Director
New York State Department of Health

50 North Street
Monticello, New York 12701
(845) 794-2045

G. Anders Carlson, Director
Division of Environmental Exposure Investigation
New York State Department of Health
Flanigan Square, 547 River Street
Room 500
Troy, New York 12180-2216
(518) 402-7501

Faith Schottenfeld, Director
Outreach and Education Group
New York State Department of Health
Flanigan Square, 547 River Street
Troy, New York 12180-2216
(518) 402-7530

Nassau County Department of Health

Nassau County Department of Health
General Information
(516) 571-3410

Norma J. Henriksen, Acting Chair
Nassau County Board of Health
Nassau County Department of Health
240 Old County Road
Mineola, New York 11501

New York, New York 10278-0090
(917) 790-8300

Lorraine Cortés-Vázquez, Secretary of State
New York State Department of State
41 State Street
Albany, New York 12231-0001
(518) 474-4752

Eamon Moynihan, Deputy Secretary of State for Public Affairs
New York State Department of State
123 William Street
New York, New York 10038-3804
(212) 417-5800

Albany Office
Division of Coastal Resources
New York State Department of State
41 State Street
Albany, New York 12233
(518) 474-6000

New York City Office
Division of Coastal Resources
New York State Department of State
123 William Street
New York, New York 10038-3804
(212) 417-5800

Other Government Resources

U.S. Army Corps of Engineers
Programs and Project Management Division
Jacob K. Javits Federal Building
26 Federal Plaza

ATTACHMENT F-3

GLOSSARY OF TERMS

ATTACHMENT F-3

HAZARDOUS WASTE SITE PROGRAM GLOSSARY

Acid
Chemicals that have a high concentration of hydrogen ions. Acids have a pH of less than 7 on a scale of 0 to 14. Strong acids, closer to 0 on the scale are corrosive, and weak acids, with a pH closer to 7, are not. An acid is the opposite of a base.

Activated carbon
A highly absorbent form of carbon, formed primarily from coal and lignite, that absorbs organic compounds. "Activated carbon treatment systems" are used to remove odors and toxic substances from liquid or gaseous emissions.

Acute effects
Health effects that have a rapid onset, a short course, and pronounced symptoms and termination. A reaction that occurs shortly after exposure to a chemical.

Acute exposure
A single, short contact with a chemical. It may last a few seconds or a few hours, but no longer than a day.

Administrative order on consent
See Consent order

Administrative record
Part of a site's Record of Decision (ROD) which lists and defines documents used in the development of DEC's decision about selection of a remedial action.

Adsorb/ Adsorption
Molecules of gas, liquid, or dissolved solids that adhere or "stick" to the surfaces they come in contact with. Some chemicals adsorb strongly to soil particles. This differs from absorb: "to take up or make part of the existing whole," like a sponge absorbs (sucks up) water.

Air sparging
Injecting air or oxygen into an aquifer to strip or flush volatile contaminants as air bubbles up through the ground water. The air is captured by a vapor extraction system. (See soil vapor extraction system).

Air stripping
A treatment system that removes or "strips" volatile organic compounds from contaminated groundwater or surface water by forcing an airstream through the water and causing the compounds to evaporate.

Ambient
The surrounding environment. Ambient usually refers to the surrounding outdoor air, water, or land.

Anaerobic
Absence of oxygen. Some organisms, such as certain soil bacteria, thrive under anaerobic conditions in soil.

Analyte
A chemical being tested for in a laboratory test.

Arsenic
An element used in wood preservatives and pesticides.

Applicable or Relevant
Any state or federal statute that pertains to protection of human life and the environment in addressing specific conditions or use of a particular cleanup technology at a Superfund site.

Applicable and Relevant and Appropriate Requirements (ARARs)
Any state or federal statute that pertains to protection of human life and the environment in addressing specific conditions or use of a particular cleanup technology at a Superfund site.

Aquifer
An underground water-bearing formation of soil or rock commonly used for drinking water.

Aquifer recharge
See Recharge

Aquitard
Geological formation that may contain groundwater but significant quantities of water will not move through it under normal conditions. May function as a confining layer.

Attenuation
See Natural attenuation

Availability session
A scheduled gathering of program staff and members of the public in a casual setting, with or without a formal presentation or agenda but usually focusing on a specific aspect of a site's remedial process.

Background, Background level
The concentration of a substance in air, water, or soil that occurs naturally or is the result of human activities not related to a hazardous waste site; conditions in the area near, but not affected by, a hazardous waste site. "Background samples" are often taken to compare an area's natural or pre-existing conditions to conditions at a hazardous waste site.

Barrier protection layer
A layer of soil covering a geomembrane designed to protect the geomembrane from wear and tear caused by the weather, animals, etc.

Base
Bases are chemicals that have a large concentration of hydroxyl (one hydrogen plus one oxygen atom) ions. A basic compound has a pH of more than 7 on a scale of 0 to 14. Strong bases, pH closer to 14, are corrosive. Weak bases, with pH closer to 7, are not. An acid can neutralize the effects of a base.

Bedrock
The continuous solid rock of the continental crust. Bedrock can be found anywhere from the surface to hundreds of feet below ground. Bedrock can be solid or it can contain numerous cracks (fractures). Groundwater and chemicals can move through fractured bedrock.

Benthic
Bottom-dwelling; usually refers to aquatic life living at the bottom of a river, stream or lake.

Bentonite
A very fine clay, expansible when moist, commonly used to provide a tight seal around a monitoring well. Also used in slurry walls.

Bioaccumulation
The build-up of toxic materials in body tissues of fish and animals.

Bioavailability
The extent to which a substance can readily be absorbed by an organism or is ready to interact in an organism's metabolism.

Bioremediation
The degradation (breakdown) or stabilization of contaminants in the environment by microorganisms. There are many remedial techniques that use microorganisms, such as bacteria, to break down contaminants. Any of these techniques may be called bioremediation.

Biota
All the living organisms in a given area.

Borehole
Hole made with drilling equipment.

Boring
See Soil boring

Brownfield
Abandoned, idled, or under-used properties where expansion or redevelopment is complicated by real or perceived environmental contamination. Brownfield sites can pose environmental, legal, and financial burdens on a community and its taxpayers. New York State provides funds through the 1996 Clean Water/Clean Air Bond Act to help municipalities that own brownfields but are not responsible for the contamination to investigate and clean up these sites. Brownfields cleaned up using Bond Act funds are also called Environmental Restoration Projects. The U.S. Environmental Protection Agency has a similar brownfield initiative.

Cap
See Landfill cap/ Landfill cover system

Carbon adsorption
A process by which contaminants are removed from groundwater or surface water when the water is forced through tanks containing activated carbon, a material that attracts the contaminants.

Carbon tetrachloride
A colorless, nonflammable liquid with a characteristic odor used as a solvent and in the synthesis of fluorocarbons.

Carcinogen
A cancer-producing substance.

Catch basin or catch-basin
1) A structure used to catch sediments for contaminant retention, often on a stream.
2) A cistern or vault at the point where a pipe from inside a factory or a street gutter discharges into a sewer, to catch bulky matters which would not pass readily through the sewer.

Carcinogenic
Capable of producing or inciting cancer.

CERCLA
See Comprehensive Environmental Response, Compensation, and Liability Act

Chlorinated hydrocarbons
Chemicals containing only chlorine, carbon, and hydrogen. These include some pesticides, such as DDT and heptachlor, and solvents such as trichloroethene and chloroform.

Chlorinated organics
See Chlorinated Solvents

Chlorinated solvents
A group of organic (carbon-containing) solvents which contain chlorine as a part of their molecular structure. Chlorinated solvents are widely used for metal parts cleaning, dry cleaning, chemical processing, and photographic film making.
Common chlorinated solvents include chloroform, methylene chloride, carbon tetrachloride, trichloroethene, tetrachloroethene, and 1,1,1-trichloroethane.

Chloroform
A clear, colorless liquid with a characteristic odor. Chloroform was one of the earliest general anesthetics but this use was abandoned due to toxic effects. Now it is widely used as a solvent in the production of lacquer, pharmaceuticals, fluorocarbons, and plastics.

Chronic effects
A long-term or repeated reaction that occurs after an exposure to a chemical. Chronic effects are the opposite of acute effects.

Citizen participation (CP)
A process to inform and involve citizens in the decision-making process during identification, assessment and remediation of inactive hazardous waste sites. This process helps to assure that sound decisions are made from environmental, human health, economic, social and political perspectives.

Citizen participation plan
A document that describes the site-specific citizen participation activities that will take place to complement the investigation and clean-up activities at a hazardous waste site. A plan may be updated or altered as public interest or the technical aspects of the program change.

Citizen participation record
A series of documents prepared at a major remedial stage which describes the citizen participation activities required at that stage. A CP record also directs a scoping process to determine if additional citizen participation activities are appropriate and feasible.

Citizen participation specialist
A DEC staff member within the Division of Public Affairs and Education who provides guidance, evaluation and assistance to help the project manager carry out the site-specific citizen participation program.

Classification
See Site classification

1996 Clean Water/Clean Air Bond Act
Provides $1.75 billion for priority environmental programs to ensure further protection of New York's air, water and natural resources, $200 million of which funds the Environmental Restoration Program, also known as the Brownfield Program, to provide financial assistance to municipalities for the investigation and /or cleanup of municipally-owned potentially

contaminated properties. The municipality may then return these properties to productive use or can market them for redevelopment.

Cleanup
Action taken to respond to a hazardous material release or threat of a release that could affect humans and/or the environment. Also called remedial action, removal action, response action, or corrective action.

Combustion
Burning.

Comment period
A time period for the public to review and comment on various documents and Division of Environmental Remediation (DER) actions. For example, a 30 day comment period is provided when DER issues a Proposed Remedial Action Plan (PRAP).

Community relations
The Environmental Protection Agency's program to inform and involve the public in the Superfund process and respond to community concerns.

Community relations plan (CRP)
The formal plan for Environmental Protection Agency community relations activities at a Superfund site. The CRP is designed to ensure citizen opportunities for public involvement and allow citizens the opportunity to learn about a site.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)
A Federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act. CERCLA created a special tax that goes into a trust fund, commonly known as Superfund, to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under the pro-gram, EPA can either pay for site cleanup when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work; or take legal action to force parties responsible for site contamination to clean up the site or reimburse the government for the cost of cleanup.

Cone of depression/ Cone of influence
A depression in the water table that develops around a pumped well.

Concentration
The amount of one substance in another substance. For example, a concentration of 10 milligrams per liter means there are 10 milligrams of a substance in 1 liter of another substance.

Conceptual design
The general outline of planned actions that will be taken to address a hazardous waste site, such as building a landfill cover system. The conceptual design is incorporated into detailed design documents during Remedial Design.

Confining layer (confining bed)
A layer or bed of impermeable or distinctly less permeable material lying below or above one or more aquifers. When the confining layer lies between two aquifers, it keeps water from the upper aquifer separated, or confined, from water in the lower aquifer.

Consent order
A legal and enforceable negotiated agreement between DEC and responsible parties where responsible parties agree to undertake investigation and cleanup or pay for the costs of investigation and cleanup work at a site. Also called an "Order on Consent."

Construction and demolition (C&D) debris/ waste
Waste building materials, dredging materials, tree stumps, and rubble resulting from construction, remodeling, repair, and demolition of homes, commercial buildings and other structures and pavements.

Contact list
Names, addresses and/or telephone numbers of individuals, groups, organizations and media interested and/or affected by a particular hazardous waste site. The DEC mails site-related information to the contact list, also called a mailing list.

Contaminant
Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water, or soil.

Contamination
Microorganisms, chemicals, toxic substances, wastes, or wastewater introduced into water, air, or soil in a concentration that makes the medium unfit for its next intended use. Objects such as building surfaces can also contain contamination.

Contaminant mass
The volume and area of contaminants in a polluted material, such as soil or groundwater. The goal of waste cleanup is to reduce the contaminant mass (e.g., reduce the amount and area of contaminants in soil).

Contaminant plume
see Plume

Contract Laboratory Program (CLP)
The Environmental Protection Agency's program that approves laboratories that provide chemical testing services of known quality using a wide range of standard methods and maintaining consistent quality control.

Corrosive
Having the power to degrade or wear away a material by chemical action.

Cost recovery
A legal process where potentially responsible parties can be required to pay back the federal or state government for money spent on cleanup actions. Cost recovery actions usually begin after the government has completed a site cleanup.

Cover material
(1) Soil used to cover compacted solid waste in a sanitary landfill.
(2) See Landfill cap/landfill cover system.

Cover system
See Landfill cap/landfill cover system

Deed notification
A notice placed on a property deed to alert future buyers about contamination on a property.

Deed restriction
A legal restriction placed on a property deed to restrict future uses of a contaminated property. For example, a deed restriction may prohibit future housing development on a contaminated industrial site, or prohibit use of contaminated groundwater on a piece of property.

Degradation products (Daughter products)
Chlorinated solvents, when released in the environment, will naturally degrade by microbial and physical processes in soil and/or groundwater into similar compounds that have fewer chlorine atoms. These new compounds are known as degradation products. For instance, tetrachloroethylene, which has 4 chlorine atoms, degrades to trichloroethylene, which has only 3 chloride atoms.

Degreaser
Chemical used to remove grease, usually from metal or plastic.

Delist/delisted/ delisting
Many sites that have been cleaned up are delisted, meaning they are removed from the State's Registry of Inactive Hazardous Waste Disposal Sites. Sites that are delisted can fall into one of three categories:

- D1: No consequential amount of hazardous waste was confirmed at the site.
- D2: Remedial actions have been completed at the site and no further action is required.

- D3: Site was combined with another site on the Registry of Inactive Hazardous Waste Disposal Sites.

Dense Non-Aqueous Phase Liquid(DNAPL)
Liquids denser than water that represent a special class of soil and groundwater contaminants with unique behavior and problems. Since they are denser than water, DNAPLs can sink deeper into the ground and can act as a continuing source of groundwater contamination, as small amounts of the material can dissolve in groundwater.

Density
The mass of a substance per unit of volume. Substances with a density greater than 1.0 are denser than water; substances with a density less than 1.0 are lighter than water.

Dermal
By or through the skin. "Dermal contact" refers to a substance coming in contact with skin.

Desorption
The opposite of adsorption or absorption; molecules detach from a surface (such as soil particles).

Detection limit
The lowest concentration of a chemical that can be reliably measured by a testing method.

Dewater
(1) Remove a portion of the water in soil or sludge to dry the soil/ sludge so it can be treated or disposed of.
(2) Remove or drain the water from a tank or trench.

1,1-Dichloroethane (1,1-DCA) and 1,2-Dichloroethane (1,2-DCA)
Chemicals with similar molecular structures used to produce a variety of consumer and industrial products, such as specialty chemicals and cleaning products. These chemicals are sometime found at hazardous waste sites as the degradation products of other chemicals, such as trichloroethane.

Dichloroethene (DCE) or 1,1-Dichloroethene and 1,2-Dichloroethene
Chemicals with similar molecular structures used to make specialty chemicals and pharmaceuticals. These chemicals are sometimes found at hazardous waste sites as the degradation products of trichloroethene.

Diffusion
Movement of a substance from an area of high concentration to an area of low concentration. Diffusion can also refer molecules of gas or vapor moving from a source, such as a bottle, to a receptor, such as a human nose.

Division of Environmental Enforcement
A unit within the DEC which works with the Division of Environmental Remediation to negotiate agreements with responsible parties for the investigation and remediation of hazardous waste sites. A negotiated agreement is contained in a consent order.

Division of Environmental Remediation
Formerly the Division of Hazardous Waste Remediation, a major unit within the DEC created to manage the hazardous waste site remedial program from site discovery through Operation and Maintenance activities. Staff include: engineers, geologists, chemists, attorneys, citizen participation specialists, environmental program specialists and support staff.

Document Repository
Typically, a DEC regional office and/or a public building, such as a library, near a particular site, at which documents related to remedial and citizen participation activities at the site are available for public review. Environ-mental Management Councils (EMCs), Conservation Advisory Committees (CACs) and active local groups can also serve as document repositories.

Downgradient
The direction that groundwater flows; similar to "downstream" for surface water.

Drainage Swale
See Swale

Drawdown
The vertical drop in the height between the water level in a well prior to pumping, and the water level in the well during pumping.

Drum
A metal or plastic container, usually with a 55 gallon capacity.

Drywell
A hole dug to a depth above the water table so that its bottom and sides are typically dry except when receiving fluid discharged from an industrial process. Is often filled with gravel or is reinforced with concrete blocks to form a chamber.

Dual-Phase Vacuum Extraction System
A treatment system designed to remove both contaminated groundwater and soil gas from a common groundwater well or wells. By removing ground-water, the system lowers the groundwater level around the well, allowing a strong vacuum to be applied to remove contaminated soil gas. The contaminated water and air can then be removed or treated and released.

Duplicate Sample
A sample taken at the same location as another sample. Both samples are tested for chemicals. Taking a duplicate sample helps to ensure that testing procedures are precise: because the samples were taken in the same location, the samples should contain similar levels of chemicals.

Effluent
Treated or untreated wastewater that flows out of a treatment plant, sewer, or industrial outfall. Generally refers to wastes discharged to surface waters.

Enforcement
DEC's efforts, through legal action if necessary, to compel a responsible party to perform or pay for site remedial activities.

Engineered/ engineering controls
Method of managing environmental and health risks by placing a barrier between the contamination and the rest of the site, thus limiting exposure pathways.

Environmental Notice Bulletin
A weekly DEC publication used to announce a variety of DEC activities. The ENB announces proposals to delist or change the site classification of hazardous waste sites, as well as voluntary cleanup agreements.

Environmental Restoration Program/ Project
See Brownfield

1986 Environmental Quality Bond Act
An act passed in 1986 that gives New York State bonding authority of up to $1.2 billion to fund the State's share of the total cost of remediating hazardous waste sites in New York State.

Epidemiology
The study of diseases as they affect population, including the distribution of disease, the factors (e.g., age, sex, occupation) that influences this distribution; and the application of this study to control health problems.

EP Tox Test
See Extraction Procedure

Explanation of Significant Differences (ESD)
A document prepared by the Division of Environmental Remediation explaining changes to a cleanup plan called for in a Record of Decision and the reason for those changes.

Explosive limits
The amounts of vapor in air which form explosive mixtures. Explosive limits are expressed as "lower explosive limits" and "upper explosive limits;" these give the range of vapor

concentrations in air that will explode if heat is added. Explosive limits are expressed as percent of vapor in air.

Exposure
Contact. No matter how dangerous a substance or activity, without exposure, it cannot harm you.

Exposure routes
A means by which a toxic substance can come into contact with or enter the body. The three major exposure routes are: inhalation (breathing), direct contact (touching), and ingestion (swallowing).

Ex-situ
Outside the original location. For example, contaminated that soil is dug up and removed before it is treated is being treated ex-situ. This is the opposite of in-situ.

Exceedance
Violation of the pollutant levels permitted by environmental protection standards.

Extraction procedure (EP Tox Test)
Determining toxicity by a procedure which simulates leaching; if a certain concentration of a toxic substance can be leached from a waste, that waste is considered hazardous, i.e., "EP Toxic."

Extraction well
A discharge well used to remove contaminated groundwater or air.

Feasibility Study (FS)
A report examining the pros and cons of alternative methods to address contamination at a hazardous waste site. The feasibility study usually recommends a certain alternative. The FS is usually based on the results of a remedial investigation; together, they are commonly referred to as the RI/FS.

Federal Register
A weekly publication covering federal government activity including rule making, proposed plans, response to public comments, etc..

Fill
Man-made deposits of natural soils or rock products and waste materials.

Fish and wildlife impact analysis
Part of a remedial investigation that looks at the effects or potential effects of contamination on fish and wildlife.

Flammable
Catches on fire easily and burns rapidly.

Flash point
The lowest temperature at which the vapor of a substance will catch on fire, even momentarily, if heat is applied. Provides an indication of how flammable a substance is.

Gas venting system
A system of pipes and vents installed in a landfill to prevent the build up of landfill gases, such as methane, that could potentially explode. Sometimes the gas vents have flares on them to burn the gas as it is released into the atmosphere. At some very large landfills, the gas is collected and used to generate electricity.

Geomembrane
A low permeability plastic sheet that is placed over a landfill to deter rain and snow from entering a landfill's waste. Geomembranes are often made from a plastic called HDPE (high density polyurethane). The geomembrane is covered with soil (barrier protection layer) and top soil to protect it.

Geophysical surveys
Techniques used to characterize the subsurface without having to dig up large areas. Examples include seismic refraction (commonly used to determine depth to bedrock), ground-penetrating radar (used to define sub-surface structures and buried objects), and magnetometry (used to detect buried iron objects).

GeoprobeTM
A special machine used to make soil borings and to create temporary groundwater monitoring wells.

Gram(g)
The unit of mass in the metric system. An ounce is about 28 grams, and a pound is approximately 450 grams.

Granular activated carbon treatment
A filtering system often used in small water systems and individual homes to remove organic compounds. See activated carbon.

Groundwater
Water found beneath the earth's surface that fills pores between soil particles such as sand, clay, and gravel or that fills cracks in bedrock. Precipitation that does not evaporate or runoff to surface waters percolates downward through soil and becomes groundwater. Groundwater flows from areas of high elevation to low elevation at generally low velocities (usually ranging from 10-1000 feet/year) and eventually discharges into surface waters such as rivers, lakes, and wetlands. Groundwater often provides a source of drinking water via wells. The chemical composition of the groundwater reflects the soil or bedrock through which it passes; groundwater dissolves minerals in the soil and bedrock. If a source of contamination exists at or below the earth's surface, percolating rainfall or snowmelt can transport contaminants downward where they can migrate with the groundwater.

Groundwater collection/ extraction and treatment system
A system of wells fitted with pumps and piping used to pump out or extract contaminated groundwater from the subsurface. Properly designed and operated systems can effectively contain a groundwater contaminant plume and prevent further contaminant migration.

Groundwater table
See Water Table

Half-life
(1) The time required for a pollutant to lose half its effect on the environment.
(2) The time required for half of the atoms of a radioactive element to undergo decay.
(3) The time required for the elimination of one half a total dose from the body.

Hammer mill
A high-speed machine that uses hammers and cutters to crush, grind, chip, or shred solid waste.

Hazardous ranking system (HRS)
A scoring system used to evaluate potential relative risks to public health and the environment from releases or threatened releases of hazardous materials. EPA and States use the HRS to calculate a site score (0 to 100) based on the actual or potential release of hazardous materials from a site through air, surface water, or groundwater. This score is the primary factor used to decide if a hazardous waste site should be placed on the National Priorities List.

Hazardous Substance
(1) Under the Comprehensive Environmental Response, Compensation, and Liability Act, a hazardous substance is any element, compound, mixture, solution, or substance that, when released to the environment, may present a substantial danger to the public health or welfare or to the environment, including, but not limited to, toxic and certain other pollutants under the Federal Water Pollution Control Act, Resource Conservation and Recovery Act, hazardous air pollutants regulated by parts of the Clean Air Act, and Toxic Substance Control Act. The term is much broader than the term hazardous waste. Sites that contain only hazardous substances are excluded from New York's Superfund program.
(2) Any substance designated reportable by the EPA if a designated quantity of the substance is spilled in the waters of the United States or if it is otherwise emitted to the environment.

Hazardous Substance Site
A site that contains hazardous substances but does not contain hazardous waste. Therefore, it cannot receive funding or attention from the State's Superfund program.

Hazardous waste(s)
By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. To be considered hazardous waste, the waste must possess at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity) or appear on special EPA lists.

Hazardous waste site
A place where hazardous wastes have been dumped, buried or improperly stored. Sites range from a crest of land containing thousands of tons of chemical wastes to a few drums of solvents dumped in a vacant lot. See also inactive hazardous waste disposal site.

Health and safety plan
A plan included in investigation or cleanup work plans which outlines protective measures for site workers and the community during investigation or cleanup activities.

Health hazard
Anything which can have harmful effects on health. There can be both acute and chronic health hazards.

Health risk assessment
A process which estimates the likelihood that people who could be exposed to chemicals may have health effects. The four steps of a risk assessment are: (1) hazard identification (Can this substance damage health?), (2) dose-response assessment (What dose causes what effect?), (3) exposure assessment (How and how much do people contact it?), and (4) risk characterization (combining the other three steps to estimate risk).

Heavy metals
Metals with high atomic weights, such as mercury, chromium, cadmium, arsenic, and lead. They can damage living things at low concentrations and tend to accumulate in the food chain.

Herbicide
A chemical used to control, suppress, or kill plants, or to severely interrupt their normal growth process.

Heterogeneous
Consisting of dissimilar ingredients or constituents.

Homogeneous
Having a uniform consistency or ingredients; composed of similar ingredients.

Hydraulic
Operated, moved or effected by means of water.

Hydraulic conductivity
The rate at which water can move through apermeable medium.

Hydraulic gradient
In general, the direction of groundwater flow due to changes in the depth of the water table. Just as water flows downhill, water in the ground moves from areas of high elevation to areas of low elevation. The slope of the water table is the hydraulic gradient. The hydraulic gradient

determines the speed of groundwater flow. A steep gradient causes groundwater to mover faster than a nearly horizontal gradient.

Hydrocarbon
Any of a series of chemical compounds that consist entirely of carbon and hydrogen.

Hydrogen Release Compound (HRCTM)
Hydrogen Release Compound (HRCTM) is a passive treatment option for bioremediation of chlorinated solvents. HRCTM is injected into contaminated soils. Naturally occurring microbes metabolize lactic acid released by HRCTM, and produce hydrogen. The resulting hydrogen can be used to break down the chlorinated solvents. The process requires anaerobic conditions. Major target compounds include perchloroethene, trichloroethene, and trichloroethane as well as their breakdown products.

Hydrogeologic testing
Physical tests performed to obtain specific groundwater and geologic data. A pump test, for example, is used to determine the permeability (a measure of how readily groundwater flows) and storage capacity (a measure of the amount of water available) of an aquifer.

Hydrogeology
The geology of groundwater, with particular emphasis on the chemistry and movement of water.

Hydrology
The study of the movement and properties of water on the earth's surface, underground and in the atmosphere.

Impermeable
Unable to be penetrated, as by liquids. For example, an "impermeable membrane" can be a thin plastic sheet through which rainwater cannot move.

Inactive hazardous waste disposal site
A hazardous waste site where disposal of hazardous wastes has been confirmed and wastes are no longer being disposed of there ("inactive" site).

Incineration
Burning of certain types of solid, liquid, or gaseous materials under controlled conditions to destroy hazardous wastes.

Infiltration
The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls. (See: percolation.)

Influent
Water, wastewater, or other liquid flowing into a reservoir, basin, or treatment plant. The opposite of effluent.

Ingestion
Swallowing. This is one way a person can be exposed to chemicals.

Inhalation
Breathing. This is one way a person can be exposed to chemicals.

Inorganic chemicals/ compounds
Chemicals that do not contain carbon. Metals are inorganic chemicals.

In-Situ
In the original place. In-situ treatment is carried out at a hazardous waste site without having to dig up and move the contaminated material. In-situ is the opposite of ex-situ.

Insoluble
Incapable of being dissolved in water or another liquid.

Institutional controls
A variety of methods used to control access to a contaminated site and/or exposure to contaminants at a site. Examples of institutional controls include fencing or deed notifications/ restrictions.

Interim remedial measure(s)(IRM)
Action(s) that can be conducted at a site relatively quickly to reduce the risk to people's health and the environment from a well-defined hazardous waste problem. An IRM can involve removing contaminated soil and drums, providing alternative water supplies or securing a site to prevent access.

Land Disposal Restrictions
Federal rules that require hazardous wastes to be treated before disposal on land to destroy or immobilize hazardous constituents that might migrate into soil and groundwater.
(LDR's)

Landfill
Any place where wastes were disposed of by dumping waste and covering it. There are three main kinds of landfills: (1) Sanitary landfills are disposal sites for nonhazardous solid wastes at which the waste is spread in layers, compacted to the smallest practical volume, and covered with material at the end of each operating day. (2) Secure chemical landfills are disposal sites for hazardous waste. They are selected and designed to minimize the chance of release of hazardous substances into the environment. (3) Old landfills were built without modern day protections; these may contain hazardous wastes. Many of these landfills are being investigated and cleaned up under the State's remediation program.

Landfill cap/ landfill cover system
A layering of material over a landfill to deter rain and snowmelt from moving through the waste pile. A typical landfill cover will include a geomembrane or a layer of clay covered with a layer of low permeability soil, which in turn is covered by a layer of topsoil and seeded to encourage grass to grow. Landfill cover systems can also include gas vents to prevent gases such as methane from building up inside the landfill. The cover system is designed so rain and snowmelt is directed into a drainage ditch or swale.

Landfill gas
As organic wastes within a landfill break down, gases such as methane and hydrogen sulfide are produced. The production of these gases drops off over time.

Leachate
Surface or groundwater that is contaminated while moving through a landfill's wastes.

Leachate collection system
A system that gathers leachate and pumps it to the surface for treatment.

Light non-aqueous phase liquid (LNAPL)
Liquids lighter than water that represent a special class of soil and groundwater contaminants with unique behavior and problems. See also NAPL.

Liner
A relatively impermeable barrier designed to keep leachate inside a landfill. Liner materials include plastic and dense clay.

List / listing
When DEC adds a hazardous waste site to the Registry of Inactive Hazardous Waste Disposal Sites, this is called "listing" a site.

Liter
The unit of volume in the metric system. A liter is about the same as a quart.

Low Temperature Thermal Desorption
The process of heating soil anywhere between 200 and 1000°F in order to vaporize contaminants with low boiling points. The vaporized contaminants are collected and treated. The low temperatures requires less fuel than other treatment methods.

Magnetometer/ magnetometer survey
A magnetometer is an instrument that can detect metal objects buried underground. When this instrument is used to look for buried drums or other metal objects at a hazardous waste site, this is called a magnetometer survey.

Maximum contaminant level
The maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs are enforceable standards.

Media/medium
Specific environments that can contain contaminants. Air, water, sediment and soil are media.

Metals
A number of chemical elements that share certain special characteristics. Many metals can be toxic in high doses and can bioaccumulate in the food chain. Metals sometimes found at hazardous waste sites include: arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

Methane
An odorless gas produced in newer landfills as organic material (previously living things or material derived from living things) breaks down. Methane production drops off as a landfill gets older.

Methylene chloride
A colorless nonflammable liquid, with a pleasant aromatic odor, used as a solvent, paint remover, and degreaser.

Micrograms per kilogram (ug/kg)
A way of expressing dose: micrograms (ug) of a substance per kilogram (kg) of body weight or soil.

Micrograms per liter (ug/l)
A unit of measure: the number of micrograms of one substance in a liter of liquid. One microgram per liter means one microgram of chemical per liter of water, and is essentially equivalent to one part per billion (ppb). Theoretically one ug/l of a substance equals one part per billion of the substance multiplied by its density.

Milligrams per kilogram (mg/kg)
A way of expressing dose: milligrams (mg) of a substance per kilogram (kg) of body weight or soil.

Milligrams per liter (mg/l)
A unit of measure: the number of milligrams of one substance in a liter of liquid. One milligram per liter means one milligram of chemical per liter of water, and is essentially equivalent to one part per million (ppm) at very low concentrations. Theoretically one mg/l of a substance equals one part per million of the substance multiplied by its density.

Monitored Natural Attenuation
Natural attentuation that is expected to achieve site cleanup objectives within a time frame that is reasonable compared to more active cleanup methods. The natural attenuation processes are

carefully monitored. Monitored Natural Attenuation is used in combination with "source control" or removing the contamination source as far as practicable.

Monitoring well
(1) A well used to obtain water quality samples or measure groundwater levels.
(2) A well drilled to collect groundwater samples for testing to determine the amounts, types, and distribution of contaminants in the groundwater beneath the site. The well enables samples of groundwater to be collected at a specific horizontal and vertical location for chemical analysis. Sometimes soil samples are also collected as the well is being drilled.

National Priorities List (NPL)
The U.S. Environmental Protection Agency's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response using money from a special trust fund (Superfund).

Natural attenuation
Relying on natural (physical, chemical, or biological) processes to reduce mass, toxicity, mobility, volume or concentration of compounds in earth or groundwater. Under proper conditions, can be used for perchloroethylene (PCE), trichloroethylene (TCE), and trichloroethane (TCA) at a lower cost than conventional remediation technologies.

New York State Department of Health
Agency within the executive branch of New York State government which: determines potential risk from environmental exposure at hazardous waste sites; conducts health-related community outreach around sites; and reviews remedial actions to assure that public health concerns are addressed.

New York State Department of Law
Agency within the executive branch of New York State government which takes the lead on hazardous waste site litigation. Litigation can involve negotiations and court action with responsible parties to clean up sites; natural resources damage claims, and recovery of remedial costs.

New York State Registry of Inactive Hazardous Waste Disposal Sites
See Registry of Inactive Hazardous Waste Disposal Sites in New York State

Non-aqueous phase liquids (NAPL)
Liquids, commonly a mixture of several different chemicals, that are either denser or less dense than water. Dense NAPL (DNAPL), such as chlorinated solvents, will sink if it enters groundwater; less dense, or light NAPL (LNAPL), such as gasoline, will float on the water table. NAPL in the subsurface can be a persistent source of groundwater contamination due to its low solubility and viscosity.

Occupational exposure limits
Maximum allowable concentrations of toxic substances in workroom air for workers.

Odor threshold
The lowest concentrations of a substance's vapor, in air, that can be smelled. Odor thresholds are highly variable, depending on the individual who breathes the substance and the nature of the substance.

Operable unit
An administrative term used to identify a portion of a site that can be addressed by a distinct investigation and/or cleanup approach. For example, groundwater contamination at a site may be considered as one operable unit, and soil contamination at the same site may be dealt with as a second operable unit. An operable unit can receive specific investigation, and a particular remedy may be proposed. A Record of Decision is prepared for each operable unit.

Operation and maintenance (O&M)
The period following construction of a remedy during which elements of the remedy must be operated and maintained. For example, after a groundwater collection and treatment system is installed (the remedial construction phase), operation of the groundwater collection system and treatment of the water would be part of the "Operation and Maintenance" phase of the remedial program. Activities could also include site inspections, groundwater well monitoring and other sampling.

Order on Consent
See Consent Order

Organic
(1) In chemistry, any compound containing carbon.
(2) Referring to or derived from living organisms.

Organic compounds
Chemicals that contain carbon.

Overburden
The rock and soil in the ground above bedrock.

Oxidizer
(1) A substance (compound) that will accept electrons from another compound, thus changing (oxidizing) the other compound.
(2)A material which may cause combustible materials to ignite without the aid of an external ignition source (such as flame) or which, when mixed with combustible materials, increases the rate of burning of these materials.

Part 360
New York State landfill regulations, including some regulations related to old landfills that contain hazardous waste.

Part 375
The portion of New York State regulations governing inactive hazardous waste disposal sites.

Particulates
Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air or emissions.

Parts per billion (ppb)
The concentration of a substance of air, water or soil. One ppb means that there is one part of a substance for every billion parts of the air, water or soil in which it is measured. One ppb is about one drop of dye in 18,000 gallons of water or about one second in 32 years. One ppb is 1,000 times less than one part per million.

Parts per million (ppm)
The concentration of a substance in air, water or soil. One ppm means that there is one part of a substance for every million parts of the water or soil in which it is measured. One ppm is about one drop of dye in 18 gallons of water, about one inch in 16 miles, or one penny in $10,000.

Parts per trillion (ppt)
The concentration of a substance in air, water or soil. One ppt means that there is one part of a substance for every trillion parts of the water or soil in which it is measured. One ppt is 1,000 times less than one part per billion.

PCBs (polychlorinated biphenyls)
A group of toxic, persistent chemicals used in transformers for insulating purposes, in gas pipeline systems as a lubricant, and in some florescent light ballasts. The sale of PCBs was banned by law in 1979, but many old transformers still contain them.

Perchloroethene
See Tetrachloroethene

Percolate/ percolation
The movement of water through a porous substance such as soil.

Permeable/ permeability
The rate at which liquids pass through soil or other materials in a specified direction. Water moves easily through a "high permeability" soil (such as gravel) and very slowly through a "low permeability" soil (such as clay).

Pesticide
Substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Some pesticides can accumulate in the food chain and/or contaminate the environment if misused.

pH
A measure of the acidity or alkalinity (how basic) of a liquid or solid material. It is related to the number of hydrogen ions in a substance.

Photo ionization detector (PID)
A hand-held instrument used to measure the overall level of volatile organic compounds in air.

Piezometer
An instrument used to measure the elevation of the water table, i.e. how far below the surface groundwater is located.

Plume
An area of chemicals moving away from its source in a feather-like (hence the name, plume) shape. A plume, for example, can be a column of smoke drifting away from a chimney. An area of dissolved chemicals moving with groundwater is called a "groundwater contaminant plume."

Polychlorinated biphenyls
See PCBs

Polycyclic aromatic hydrocarbons (PAHs)
A group of over 100 different chemicals that form during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. Some PAHs are manufactured. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides. Most do not dissolve easily in water and stick tightly to soil particles.

Polynuclear aromatic hydrocarbons (PAHs)
See polycyclic aromatic hydrocarbons

Porosity
The percentage of the total volume of a given body of rock that is pore space. It is the portion of void (air) space in rock, soil, or sediment.

Potable
Drinkable.

Potentially responsible party (PRP)
Persons identified by the EPA under CERCLA or by New York State law as being responsible for the contamination at a hazardous waste site. By law, PRPs may be generators, present or former owners or operators of a site, or transporters of the hazardous substances.

PRAP
See Proposed Remedial Action Plan

Precipitation
(1) Rain or snow.
(2) Removal of solids from liquid waste so that the hazardous solid portion can be disposed of safely.

Preliminary site assessment (PSA)
A PSA is the Division of Environmental Remediation's first investigation of a site. A PSA is performed to determine if a site meets New York State's definition of an inactive hazardous waste disposal site by confirming the presence of hazardous waste and determining if the site poses a significant threat to public health or the environment.

Presumptive remedy
Cleanup technique(s) that can be applied to hazardous waste sites with common characteristics. For example, old municipal landfills built without a liner often have similar characteristics. EPA has developed a "presumptive remedy" for this type of site. Essentially, EPA said "Here's a site similar in all key ways to many other sites we've cleaned up. Wouldn't it make sense to use that cleanup approach here too?"

Project manager
A DEC staff member within the Division of Environmental Remediation (usually an engineer, geologist, or hydrogeologist) responsible for the remedial program at a hazardous waste site. The project manager works with the Division of Public Affairs and Education, fiscal and legal staff and the Department of Health to accomplish site-related goals and objectives.

Proposed Remedial Action Plan (PRAP)
A document outlining alternatives considered by the Division of Environmental Remediation for the remediation of a hazardous waste site and highlighting the alternative preferred by DEC. The PRAP is based on information developed during the site's Remedial Investigation and Feasibility Study. The PRAP is reviewed by the public and other state agencies.

Public hearing
A formal hearing at which the public has the opportunity to submit comments and testimony on proposed actions for the public record.

Public meeting
A scheduled gathering of DEC staff and the public to give and receive information, ask questions and discuss concerns.

Publicly owned treatment works (POTW)
A wastewater system, owned by a municipality, state, or tribe that is used for the collection, treatment, and/or disposal of sewage. Usually POTW refers specifically to the sewage treatment plant.

Pump and treat
A method used to collect and treat contaminated groundwater. Typically, groundwater is collected in a well or trench and pumped to a treatment system.

Quality assurance (QA)/ quality control (QC)
A system of procedures, checks, audits, and corrective actions to ensure that environmental sampling and testing are of the highest achievable quality.

Reactivity
The ability of a substances to undergo change, usually by combining with another substance or by breaking down. Certain conditions, such as heat and light, may cause a substance to become more reactive. Highly reactive substances may explode.

Real-time monitoring
During construction or investigation activities, continuous monitoring of air with equipment that gives immediate read-outs; that is, samples don't need to be sent to a laboratory to obtain results.

Recharge
The replenishment of groundwater by infiltration of rain and snow through the soil.

Reclassification
A process by which the Division of Environmental Remediation redefines the threat posed by a hazardous waste site to public health and the environment by developing and assessing site information and, based on findings and conclusions, assigning the site a new classification code (see Site Classification.

Record of Decision (ROD)
A document which provides the definitive record of the cleanup alternative that will be used to remediate a hazardous waste site. The ROD is based on the Remedial Investigation / Feasibility Study and public comment.

Registry of Inactive Hazardous Waste Disposal Sites in New York State
Often referred to as "the Registry," this is a compilation of all known and suspected hazardous waste sites (meeting certain criteria) in New York State. The Registry is compiled in a series of documents published every spring and can be purchased by the public. The document included a one page description and map of each site.

Remedial/ remediate/ remediation
Refers to any procedures or strategies used to address a hazardous waste site. For example, a Remedial Investigation determines what areas of a site need to be addressed (cleaned up or remediated), a proposed remedial action plan describes remedial actions (cleanup methods or corrective actions) that have been recommended for a specific site; remediation of a site could include removing contaminated soil.

Remedial action (RA)
Action taken to remove, destroy, reduce, or prevent the spread of contamination at a hazardous waste site.

Remedial alternatives report (RAR)
In New York State's Brownfield program, a RAR is the equivalent of a feasibility study.

Remedial construction (RC)
The physical development, assembly and implementation of the alternative selected to remediate a site. For example, remedial construction could include installing a groundwater collection and treatment system. Construction follows a remedial design stage.

Remedial design (RD)
The process following finalization of a Record of Decision in which plans and specifications are developed for the implementation of the alternative selected to remediate (clean up) a site.

Remedial Investigation (RI)
Studies designed to gather the data necessary to determine the type (nature) and extent (location) of contamination at a hazardous waste site. The RI is usually performed at the same time as a Feasibility Study in a process known as the "RI/FS." This process is designed to:

Establish criteria for cleaning up the site.
Identify and screen cleanup alternatives for remedial action; and
Analyze in detail the technology and costs of the alternatives.

Remedial program
DEC's efforts to investigate and clean up inactive hazardous waste disposal sites. A remedial program is designed to correct or "cure"(remedy) releases or potential releases of hazardous materials into the environment. DEC takes several steps as part of each site's remedial program: it investigates contamination (Remedial Investigation), analyzes different methods to address threats posed by the site (Feasibility Study), proposes a cleanup plan (Proposed Remedial Action Plan), selects a final plan (Record of Decision), and designs and implements the plan (Remedial Design andRemedial Construction).

Remediation
See remedial

Remedy
Actions taken to prevent or mitigate the release of hazardous materials into the environment at hazardous waste sites and brownfield sites. The word "remedy" is used in the sense of a "cure" or "corrective action."

Removal action
Often less burdensome and extensive than remedial actions, a removal action is intended to be a quick, temporary response to a release or the threat of release of a hazardous material at a

hazardous waste site. A removal action could involve removing drums of hazardous material, contaminated soil or contaminated sediment and taking these items to a proper disposal facility.

Residual / residue
The quantity of a substance, its degradation products, and/or its metabolites remaining on or in the soil or groundwater. "Residual contamination" usually refers to low levels of chemicals that may be left in soil, bedrock or groundwater after cleanup of hazardous wastes.

Resource Conservation and Recovery Act (RCRA)
Federal law governing the treatment, storage, handling, disposal, and overall management of solid and hazardous wastes.

Responsible parties
See Potentially responsible parties

Responsiveness summary
A formal or informal written summary and response by the DEC to public questions and comments. A responsiveness summary is prepared following a public meeting about a Proposed Remedial Action Plan and may also be prepared after other public meetings. The responsiveness summary may list and respond to each question, or summarize and respond to questions in categories.

Reverse osmosis
A type of pressurized filtration system in which water is forced through a semipermeable membrane that allows the passage of water but restricts many contaminants.

Riprap
Large fragments of broken rock, thrown together irregularly or fitted together (as on the down-stream face of a dam). Its purpose is to prevent erosion by waves or currents and thereby preserve a surface, slope, or underlying structure. It is used for irrigation channels, river-improvement works, spillways at dams, and sea walls for shore protection.

Risk
The chance of an injury, illness, or death caused by exposure to a hazard.

Risk assessment
The qualitative and quantitative evaluation performed in an effort to define the risk posed to human health and/or the environment by the presence or potential presence and/or use of specific pollutants.

ROD
See Record of Decision

Sampling
Small amounts of air, water, or soil are obtained and tested to determine the levels of different hazardous chemicals contained in them.

Sanitary landfill
See Landfill

Saturated zone
A subsurface area in which all pores and cracks in rock and/or soil are filled with water.

Scrubber
A device for removing unwanted gases or particles from an air stream by spraying the air with liquid (usually water) or forcing air through a series of baths. Scrubbers are often put on smoke stacks.

Sediment
Soil, sand, and minerals washed by rain from land into water that accumulates on the bottom of ditches, streams, rivers and lakes.

Selected alternative
(1) The cleanup alternative selected by the state as the most feasible.
(2) The cleanup alternative selected for a site on the National Priorities List based on technical feasibility, permanence, reliability, and cost.

Semi-volatile organic compounds (SVOCs)
Chemicals similar to volatile organic compounds but that do not evaporate as readily. Polynucleated aromatic hydrocarbons are semi-volatile compounds.

Site classification
DEC assigns inactive hazardous waste disposal sites classifications established by state law, as follows:

Class 1 - A site causing or presenting an imminent danger of causing irreversible or irreparable damage to the public health or environment - immediate action required.

Class 2 - A site posing a significant threat to the public health or environment - action required.

Class 2a - A temporary classification for a site that has inadequate and/or insufficient data for inclusion in any of the other classes.

Class 3 - Site does not present a significant threat to the public health or the environment - action may be deferred.

Class 4 - A site which has been properly closed - requires continued management.

Class 5 - A site which has been properly closed, with no evidence of present or potential adverse impact - no further action required.

Site Investigation/Remedial Alternatives Report (SI/RAR)
In New York's Brownfield program, this is the equivalent of a Remedial Investigation / Feasibility Study report. The site investigation is similar to a Remedial Investigation, and the Remedial Alternatives Report is similar to a Feasibility Study.

Sludge
A semi-solid residue from any of a number of industrial processes or air or water treatment processes. Sludge can be a hazardous waste.

Slurry
A watery mixture that does not contain a significant amount of dissolved materials.

Slurry Wall
An underground wall designed to stop groundwater flow; constructed by digging a trench and backfilling it with a slurry rich in bentonite clay.

Soil boring
A circular hole made in the ground by an auger or mechanical drill rig to collect soil samples deep in the ground. Representative samples are collected for testing to see if the subsoil has been contaminated. Sometimes these borings are converted into groundwater monitoring wells.

Soil gas
Air in the spaces between soil particles. Contaminants can be trapped in this air.

Soil gas survey
A method for investigating underground distributions of volatile organic compounds (VOCs) by looking for their vapors in the shallow soil gas. The presence of VOCs in shallow soil gas indicates the VOCs may be in the unsaturated (dry) soil or in the groundwater below the probe. This survey is used to trace the outline of a contaminant plume and help determine the best location to install groundwater monitoring wells.

Soil Vapor Extraction System (SVE)
An in-situ remediation technique that applies a vacuum to a series of wells ("vapor extraction wells") and induces air flow through contaminated soil. As the air migrates through the soil, volatile organic compounds (VOCs) volatilize (evaporate) and move with the air to the extraction wells where they are removed from the subsurface. If the concentration of VOCs in the extracted air is high, the air maybe treated by a carbon adsorption system before being released to the atmosphere. In some cases, dual phase vacuum extraction is used to treat both groundwater and the overlying soil.

Solid waste
Non-liquid, non-soluble materials ranging from municipal garbage to industrial wastes that contain complex, and sometimes hazardous, substances. Solid wastes also include sewage sludge, agricultural refuse, demolition wastes, and mining residues.

Solubility
The amount of a substance that can be dissolved in water or (sometimes) another substance.

Solvent
A substance (usually a liquid) capable of dissolving one or more other substances. For example, paint remover is a paint solvent.

Sorb
To take up and hold by either adsorption or absorption.

Source area
An area from which groundwater contamination is believed to originate. For example, Company A spilled a 55 gallon drum of trichloroethene (TCE) onto the ground near a loading dock at their facility. The TCE spread through the soil and contaminated groundwater around the facility. Because the contamination originated in the loading dock area, this area is the "source area." Over time, the highly concentrated TCE in the source area would continue to slowly spread through groundwater and soil, acting as a continuous "source" of groundwater contamination. Thus, the most effective way to slow down and prevent further spreading of contamination would be to address the source area.

SPDES permit (pronounced SPEEDIES)
See State Pollution Discharge Elimination System

Split samples
A soil sample from a hazardous waste site that is divided between the potentially responsible parties (PRPs) and the DEC or the Health Department. It functions as a system of checks and balances since both the PRPs and the DEC analyze their half of the sample. The results of the two analyses can then be compared.

Split-spoon Sample
A sample of unconsolidated material taken by driving a sampling device (split spoon) into the soil ahead of a drill bit in a soil boring. A split-spoon sampler is typically driven into the soil by repeatedly dropping a weight.

Standards, criteria and guidance values (SCGs)
Values that indicate acceptable or normal levels of various contaminants in the environment. These values are used to establish cleanup goals at hazardous waste sites. Depending on the chemical, the values are developed by the U.S. Environmental Protection Agency, DEC and/or the New York State Department of Health.

State assistance contract (SAC)
In DEC's brownfield program, the official agreement between a municipality and the state that outlines both party's responsibility for a brownfield investigation and/or cleanup.

State Pollution Discharge Elimination System (SPDES) permit
A permit issued by the DEC as part of the SPDES program, which is designed to maintain New York's waters with reasonable standards of purity. State law requires a SPDES permit before construction or use of an outlet or discharge pipe for wastewater discharging into surface water or groundwater, and for construction or operation of disposal systems such as sewage treatment plants.

Sump
A pit or tank that catches liquid runoff for drainage or disposal.

Superfund
Federal and state programs to investigate and clean up inactive hazardous waste disposal sites. The federal program gives the U.S. Environmental Protection Agency the funding and authority to investigate, rank and con-duct or supervise cleanup of sites on the National Priority List. New York State's program gives DEC the same authority to deal with sites that do not qualify for the federal superfund list, but meet certain other qualifications.

Superfund Amendments and Reauthorization Act (SARA)
Modifications to CERCLA enacted in 1986. Sometimes referred to as the "Right to Know Law," it requires, among other things, that industry provide the government with information on the use and release of certain chemicals into the environment. This information is then made available to the public.

Surface water
All water naturally open to the atmosphere. Refers to water in rivers, lakes, reservoirs, streams, impoundments, seas, estuaries, and so on.
Swale A slight depression, sometimes swampy, in the midst of generally level land.
Technical and Administrative Guidance Memorandum (TAGM) An official internal Division of Environmental Remediation document that outlines divisional policies or recommended guidance for topics such as determining cleanup goals at hazardous waste sites.

Technical Assistance Grant Program (TAG Program)
A federal grant program that provides funds for qualified citizens' groups to hire independent technical advisors to help them understand and comment on technical decisions relating to federal Superfund cleanup actions.

Technical and Operational Guidance Series (TOGs)
DEC Division of Water's documents listing water quality standards and guidance values.

Test pit
A small excavation at a hazardous waste site. Investigators dig test pits to get an idea of subsurface conditions at hazardous waste sites.

Tetrachloroethene (Perchloroethene)
A clear, colorless, non-flammable liquid with a characteristic odor. It is a widely used solvent, especially as a dry cleaning agent and as a degreaser.

Threshold
A dose or exposure below which there is no measurable adverse effect.

Title 3 program/project
Part of New York State's Superfund program whereby the State pays 75 percent of eligible costs for remediation of municipally owned hazardous waste sites and the municipality pays 25 percent.

Toxicity
The degree of danger posed by a substance to animal or plant life.

Toxicity Characteristic Leaching Procedure
Laboratory test used to determine the mobility of organic and inorganic contaminants present in liquid, solid, and multiphase wastes. If an extract from a representative sample is shown to contain any contaminant in an amount exceeding the levels allowed by regulations, the waste is banned for land disposal unless properly treated.

Toxic substances
A chemical or mixture that may present an unreasonable risk of injury to health or the environment.

Toxic Substances Control Act (TSCA) of 1976
A federal law that provides for testing of manufactured substances to determine toxic or otherwise harmful characteristics and regulation of the manufacture, distribution, use, and disposal of regulated substances.

Treatability studies
(1) Tests of potential cleanup technologies conducted in a laboratory.
(2) Pilot-scale type tests conducted at hazardous wastes sites to determine if a treatment technology will work for that site's particular set of environmental conditions.

Treatment, storage, and disposal facility (TSDF)
A site where a hazardous substance is treated, stored or disposed of. TSDF facilities are regulated by EPA and states under the Resource Conservation and Recovery Act.

1,1,1-Trichloroethane (1,1,1 TCA)
Colorless, non-flammable, man-made liquid solvent used as a degreaser, a dry-cleaning agent, and a propellant.

Trichloroethene or Trichloroethylene (TCE)
A colorless, man-made liquid used primarily as a solvent for removing grease from metal. It has a variety of other uses such as a dry cleaning solvent and in the production of other chemicals. It generally gets into drinking water by improper waste disposal.

Unconfined aquifer
An aquifer in which water is not contained by an impermeable layer of rock or soil. The water level in the aquifer may rise or fall according to the volume of water stored, which varies according to seasonal cycles of natural recharge.

Unsaturated zone
The area of soil and rock between the land surface and the water table. The spaces between soil particles (pore spaces) in the unsaturated zone contain mostly air, but water occurs there as soil moisture.

Vadose zone
The underground zone between the land surface and the water table; essentially the unsaturated zone.

Vapor
The gas given off by a solid or liquid substance at ordinary temperatures.

Vinyl chloride
A colorless gas used in the manufacture of polyvinyl chloride and other resins, and as a chemical intermediate and as an industrial solvent. Vinyl chloride is a carcinogen.

Viscosity
The property of a fluid describing its resistance to flow.

Volatile
Description of any substance that evaporates easily.

Volatile organic compounds (VOCs)
Carbon-containing chemicals which readily evaporate (cleaning solvents, gasoline, etc.). Many common industrial chemicals are VOCs, including trichloroethene, 1,1,1-trichloroethane, and tetrachloroethene.

Voluntary cleanup agreement
A legal document signed by DEC and another party (volunteer) for investigation and/or cleanup of a contaminated site. In return for cleaning up the site, the volunteer receives a limited liability release for past environmental contamination of the site.

Voluntary cleanup program
A program designed to promote voluntary cleanup of contaminated sites including inactive hazardous waste sites, hazardous substance sites, petroleum contaminated sites and solid waste disposal sites, whereby the volunteer enters into a Voluntary Cleanup Agreement with the DEC.

Waste
(1) Unwanted materials left over from a manufacturing process.
(2) Refuse from places of human or animal habitation.

Water-bearing zone
The area underground in which pores and cracks in rock and/or soil are normally filled with water. Therefore, if a well is drilled into this area, water can be drawn out on a regular basis.

Water table
The level of groundwater; the boundary between the unsaturated zone and the saturated zone.The water-table generally reflects surface topography and varies with changes in land surface elevations.

Weir
(1) A wall or plate in a open channel to measure the flow of water.
(2) A wall or obstruction used to control flow from settling tanks, clarifiers, or a drainage system to ensure a uniform flow rate.

Wetlands
An area that is regularly saturated by surface water or groundwater. Examples of wetlands include swamps, bogs, fens, marshes, and estuaries.