

APPENDIX A

Acronyms

AGS	Alternating Gradient Synchrotron	EM	Environmental Monitoring
AMSL	Above Mean Sea Level	EML	Environment Measurements Laboratory
AOC	Area of Concern	EMS	Environmental Management System
ASL	Analytical Services Laboratory	EMSL	Environmental Monitoring System Laboratory
AS/SVE	Air Sparging/Soil Vapor Extraction	ER	Environmental Restoration
AUI	Associated Universities, Inc.	EPA	Environmental Protection Agency
BETX	Benzene, Ethyl benzene, Toluene, and Xylene	ES&H	Environment, Safety, and Health
BF	4-bromofluorobenzene	FS	Feasibility Study
BGRR	Brookhaven Graphite Research Reactor	GEL	General Engineering Lab
BHG	Brookhaven Group	HEPA	High Efficiency Particulate Air
BLIP	Brookhaven Linac Isotope Producer	HFBR	High Flux Beam Reactor
BMRR	Brookhaven Medical Research Reactor	HTO	Tritiated Vapor Water
BNL	Brookhaven National Laboratory	HWMA	Hazardous Waste Management Area
BSA	Brookhaven Science Associates	HWMF	Hazardous Waste Management Facility (Former)
BOD	Biological Oxygen Demand	IAG	Interagency Agreement
CAA	Clean Air Act	IAP	Integrated Assessment Program
CAP	CAA Assessment Package	ISO	International Standards Organization
CEM	Continuous Emissions Monitoring	LIE	Long Island Expressway
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act	MACT	Maximum Available Control Technology
CH	Chicago	MDL	Minimum Detection Limit
CLP	Contract Laboratory Protocol	MEI	Maximally Exposed Individual
CO	Certificates to Operate	MLD	Million Liters per Day
CSF	Central Steam Facility	MGD	Million Gallons per Day
CWA	Clean Water Act	MOA	Memorandum of Agreement
D ₂ O	Heavy Water	MPF	Major Petroleum Facility
DCA	1,1-dichloroethane	MRC	Medical Research Center
DCE	1,1-dichloroethylene	MTBE	Methyl tertiary butyl ether
DDD	Dichlorodiphenyldichloroethane	MW	Mega Watt
DDT	Dichlorodiphenyltrichloroethane	NA	Not Analyzed
DCG	Derived Concentration Guide	ND	Not Detected
DMR	Discharge Monitoring Report	NEPA	National Environmental Policy Act
DOE	Department of Energy	NERL	National Environmental Radiation Laboratory
DOH	Department Of Health	NESHAPs	National Emission Standards for Hazardous Air Pollutants
DQO	Data Quality Objective	NIST	National Institute for Standards and Technology
DWS	Drinking Water Standards	NO _x	Nitrogen Oxides
ECR	Environmental Compliance Representative	NPDES	National Pollutant Discharge Elimination System
EDB	Ethylene Dibromide	NPL	National Priorities List
EDE	Effective Dose Equivalent	NR	Not Reported
EDTA	Ethylenediaminetetra Acid		
ELAP	Environmental Laboratory Approval Program		

NS	Not Sampled	SCDHS	Suffolk County Department of Health Services
NSLS	National Synchrotron Light Source	SCWA	Suffolk County Water Authority
NYCRR	New York Code of Rules and Regulations	SDWA	Safe Drinking Water Act
NYS	New York State	SER	Site Environmental Report
NYS AWQS	New York State Ambient Water Quality Standard	SERC	State Emergency Response Committee
NYSDEC	New York State Department of Environmental Conservation	SOP	Standard Operating Procedures
NYSDOH	New York State Department of Health	SO ₂	Sulfur Dioxide
NYS DWS	New York State Drinking Water Standard	SPCC	Spill Prevention Control and Countermeasures
O&M	Operation and Maintenance	SPDES	State Pollutant Discharge Elimination System
OU	Operable Unit	STP	Sewage Treatment Plant
ORPS	Occurrence Reporting Processing System	SU	Standard Unit
P2	Pollution Prevention	T _{1/2}	Half life
PCB	Polychlorinated biphenyl's	TCA	1,1,1-trichloroethane
PCE	Tetrachloroethylene (or perchloroethylene)	TCE	Trichloroethylene
PC	Permit to Construct	TCLP	Toxic Characteristic Leachate Procedure
PE	Plant Engineering	TLD	Thermoluminescent Dosimeter
QA	Quality Assurance	TSCA	Toxic Substances Control Act
QAP	Quality Assurance Program	TSDF	Treatment, Storage, and Disposal Facility
QAPP	Quality Assurance Program Plan	TVOC	Total Volatile Organic Compounds
QC	Quality Control	USEPA	United States Environmental Protection Agency
QM	Quality Management	UST	Underground Storage Tank
R2A2's	Roles, Responsibilities, Accountability & Authorities	VOC	Volatile Organic Compound
RA	Removal Action	WCF	Waste Concentration Facility
RACT	Reasonable Available Control Technology	WM	Waste Management
RCRA	Resource Conservation and Recovery Act	WMF	Waste Management Facility (New)
RI/FS	Remedial Investigation/Feasibility Study	WP	Water Pollution
RHIC	Relativistic Heavy Ion Collider	WQS	Water Quality Standard
ROD	Record of Decision	WS	Water Supply
RPD	Relative Percent Difference	WSRRA	Wild, Scenic, and Recreational River Systems Act
SARA	Superfund Amendments and Reauthorization Act	WTP	Water Treatment Plant

Glossary

This glossary reflects the typical manner in which terms are used for this specific document, and may not apply to all situations. For other radiological terms, see Chapter 4. For definitions and descriptions of the various environmental regulations, see Chapter 3.

A

Accuracy - The degree of agreement of a measurement with an accepted reference or true value. It is expressed as the difference between two values, as a percentage of the reference or true value, or as a ratio of the measured value and the reference or true value.

Activation - The process of making a material radioactive by bombardment with neutrons, protons, or other nuclear particles.

Activation products - Radionuclides produced through bombardment with neutrons, protons, or other nuclear particles.

Aerosol - A gaseous suspension of very small particles of liquid or solid.

Air Sparging - A method of extracting volatile organic compounds from the groundwater in situ (i.e., in place) using compressed air. The vapors are typically collected using a soil vapor extraction system.

Air Stripping - A process whereby volatile organic chemicals are removed from contaminated water by forcing a stream of air through the water in a vessel. The contaminants are evaporated into the air stream. The air may be further treated before it is released into the atmosphere.

ALARA - As Low As Reasonably Achievable, a phrase which describes the approach to environmental protection to control or manage exposures to individuals and releases of radioactive or other harmful material to the environment as low as social, technical, economic, practical, and public policy considerations will permit. ALARA is not a dose limit, but a process that has as its goal the attainment of dose levels as far below applicable limits as is practicable.

Alpha Radiation - An alpha particle is identical in make-up to the nucleus of a helium atom. Alpha particles have a positive charge, and have little or no penetrating power in matter. They are easily stopped by materials such as paper and have a range in air of only an inch or so. Naturally occurring radioactive elements such as radon emit alpha radiation.

Ambient air - The surrounding atmosphere, usually the outside air, as it exists around people, plants, and structures. It is not considered to include the air immediately adjacent to emission sources.

Analyte - A constituent that is being analyzed.

Anthropogenic - man-made, as opposed to naturally occurring.

Anion - A negatively charged ion, for example Cl⁻.

Aquifer - A saturated layer of rock or soil below the ground surface that can supply usable quantities of groundwater to wells and springs. Aquifers can be a source of water for domestic, agricultural, and industrial uses.

Area of Concern (AOC) - An area where releases of hazardous substances may have occurred or a location where there has been a release or threat of a release into the environment of a hazardous substance, pollutant, or contaminant (including radionuclides) under CERCLA. AOCs may include, but need not be limited to, former spill areas, landfills, surface impoundments, waste piles, land treatment units, transfer stations, wastewater treatment units, incinerators, container storage areas, scrapyards ("boneyards"), cesspools, and tanks and associated piping that are known to have caused a release into the environment or whose integrity has not been verified.

Atomic absorption (AA) - A method used to determine the elemental spectroscopy composition of a sample. In this method, the sample is vaporized and its light absorbance measured.

B

Beta Radiation - Beta radiation is composed of particles which are identical to electrons. Beta particles have a negative charge. Beta radiation is slightly more penetrating than alpha, but may be stopped by materials such as aluminum foil. They have a range in area of a few inches. Naturally occurring radioactive elements such as potassium-40 emit beta radiation.

Blank - A control sample that is identical to the sample of interest, except that the analyte of interest is absent.

Blowdown - Water discharged from either a boiler or cooling tower in order to prevent the build-up of inorganic matter within the boiler or tower and to prevent scale formation (i.e., corrosion).

Biochemical (biological) Oxygen Demand (BOD) - A measure of the amount of oxygen in biological processes that breaks down organic matter in water;

a measure of the organic pollutant load. It is used as an indicator of water quality.

C

Cap - A layer of material, such as clay or a synthetic material, used to prevent rainwater from penetrating and spreading contaminated materials. The surface of the cap is generally mounded or sloped so water will drain off.

Carbon Adsorption/Carbon Treatment - A treatment system in which contaminants are removed from groundwater, surface water, and air by forcing water or air through tanks containing activated carbon (a specially treated material that attracts and holds or retains contaminants).

Chain-of-Custody (COC) - A method for documenting the history and possession of a sample from the time of collection, through analysis and data reporting, to its final disposition.

Characterization - Facility or site sampling, monitoring and analysis activities to determine the extent and nature of contamination. Characterization provides the basis of necessary technical information to select an appropriate cleanup alternative.

Class GA groundwater - NYSDEC classification for high quality groundwater, where the best intended use is as a source of potable water.

Closure - Under the RCRA regulations, this term refers to a hazardous or solid waste management unit that is no longer operating, where potential hazards that it posed have been addressed (either through clean up, immobilization, capping, etc.) to the satisfaction of the regulatory agency.

Code of Federal Regulations (CFR) - A codification of all regulations developed and finalized by federal agencies in the Federal Register.

Collective Effective Dose Equivalent - A measure of health risk to a population exposed to radiation. It is the sum of the effective dose equivalents of all individuals within an exposed population, frequently considered to be within 80 km of an environmental release point. It is expressed in person-rem or person-sievert.

Committed Effective Dose Equivalent - The total effective dose equivalent received over a 50 year period following the internal deposition of a radionuclide, expressed in rem (or sieverts).

Composite Sample - A sample of an environmental media that contains a certain number of portions collected over a period of time. The samples may be collected from the same location or different locations. They may or may not be collected at equal time intervals over a pre-defined period of time (e.g., 24 hours).

Confidence Interval - A numerical range within which the true value of a measurement or calculated

value lies. In this report, radiological values are shown with a 95% confidence interval, i.e., there is a 95% probability that the true value of a measurement or calculated value lies within the specified range.

Contamination - Unwanted radioactive and/or hazardous material that is disbursed on or in equipment, structures, objects, soil, or water.

Controlled Area - Any area to which access is controlled to protect individuals from exposure to radiation and radioactive materials.

Cooling Water - Water that is used to cool machinery and equipment. Contact cooling water is any wastewater that contacts machinery or equipment to remove heat from the metal. Non-contact cooling water is water used for cooling purposes but has no direct contact with any process material or final product. Process wastewater cooling water is water used for cooling purposes that may have become contaminated through contact with process raw materials or final products.

D

Decontamination - The removal or reduction of radioactive or hazardous contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical action, mechanical cleaning, or other techniques to achieve a stated objective or end condition.

Derived Concentration Guide (DCG) - The concentration of a radionuclide in air or water that, under conditions of continuous exposure for one year would result in an effective dose equivalent of 100 mrem (1 mSv).

Disposal - Final placement or destruction of waste.

Dosimeter - A portable detection device for measuring the total accumulated exposure to ionizing radiation.

Downgradient - In the direction of groundwater flow from a designated area; analogous to downstream.

E

Effective Dose Equivalent (EDE) - A value used to express the health risk from radiation exposure to a tissue or tissues in terms of an equivalent whole-body exposure. It includes the sum of the effective dose equivalent due to radiation from sources external to the body and the committed effective dose equivalent due to the internal deposition of radionuclides. EDE is expressed in units of rem (or sieverts).

Effluent - Any liquid discharged to the environment, including stormwater runoff at a site or facility.

Emission - Any gaseous discharge to the atmosphere.

Environment - Surroundings in which an organization operates, including air, water, land, natural

a measure of the organic pollutant load. It is used as an indicator of water quality.

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Effluent - Any liquid discharged to the environment, including stormwater runoff at a site or facility.

Emission - Any gaseous discharge to the atmosphere.

Environment - Surroundings in which an organization operates, including air, water, land, natural

resources, flora, fauna, humans and their interrelation.

Environmental Assessment (EA) - A report that identifies potentially significant environmental impacts from any federally approved or funded project that may change the physical environment. If an EA identifies a "significant" impact (as defined by NEPA), an Environmental Impact Statement is required.

Environmental Media - Includes air, groundwater, surface water, soil, flora and fauna.

Environmental Impact Statement (EIS) - A detailed report, required by federal law, on the significant environmental impacts that a proposed major federal action would have on the environment. An EIS must be prepared by a government agency when a major federal action that will have significant environmental impacts is planned.

Environmental Surveillance - Sampling for contaminants in air, water, sediments, soils, food stuffs, plants and animals, either by directly measuring or by collecting and analyzing samples.

Environmental Protection Agency (EPA) - The federal agency responsible for developing and enforcing environmental laws. Although state regulatory agencies may be authorized to administer environmental regulatory programs, EPA retains oversight authority.

Ethylene Dibromide (EDB) - A colorless, nonflammable, heavy liquid with a sweetish odor; slightly soluble in water, soluble in ethanol, ether, and most organic solvents. It was used as an additive in leaded gasoline, as a soil and grain fumigant, and in waterproofing preparations. It is still used to treat felled logs for bark beetles; to control wax moths in beehives; as a chemical intermediary for dyes, resins, waxes, and gums; to spot treat milling machinery, and to control Japanese beetles in ornamental plants. The federal Department of Health and Human Services has determined that ethylene dibromide may reasonably be anticipated to be a carcinogen.

Evapotranspiration - A process by which water is transferred from the soil to the air by plants that take the water up through their roots and release it through their leaves and other above ground tissue.

F

Feasibility Study (FS) - A process for developing and evaluating remedial actions, using data gathered during the remedial investigation to define the objectives of the remedial program for the site and broadly develop remedial action alternatives, perform an initial screening of these alternatives, and perform a detailed analysis of a limited number of alternatives that remain after the initial screening stage.

G

Gamma Radiation - Gamma radiation is a form of electromagnetic radiation, like radio waves or visible light, but with a much shorter wavelength. It is more penetrating than alpha or beta radiation, capable of passing through dense materials such as concrete. X-rays are essentially a form of gamma radiation.

Gamma Spectroscopy - This analysis technique identifies specific radionuclides. It measures the particular energy of a radionuclide's gamma radiation emissions. The energy of these emissions is unique for each nuclide, acting as a 'fingerprint' to identify a specific nuclide.

Grab Sample - A single sample, collected at one time and place.

Groundwater - Water found beneath the surface of the ground (subsurface water). Groundwater usually refers to a zone of complete water saturation containing no air.

H

Half-life - The time required for one half of the atoms of any given amount of a radioactive substance to disintegrate.

Hazardous Waste - Toxic, corrosive, reactive, or ignitable materials that can negatively affect human health or damage the environment. They can be liquid, solid, or sludge, and include heavy metals, organic solvents, reactive compounds, and corrosive materials. They are defined and regulated by the Resource Conservation and Recovery Act (RCRA). (See Resource Conservation and Recovery Act [RCRA]).

Hydrology - The science dealing with the properties, distribution, and circulation of natural water systems.

I

Inert - Lacking chemical or biological action.

Influent - Liquid (e.g., wastewater) flowing into a reservoir, basin, or treatment plant.

Isotope - Two or more forms of a chemical element, having the same number of protons in the nucleus (or the same atomic number), but having different numbers of neutrons in the nucleus (or different atomic weights). Isotopes of a single element possess almost identical chemical properties.

Intermittent River - A stream that dries up on occasion. Seasonal factors frequently are the cause.

L

Leach/Leaching - The process by which soluble chemical components are dissolved and carried through soil by water or some other percolating liquid.

Liquid Scintillation Counter - An analytical instrument used to quantify tritium, carbon-14 and other beta-emitting radionuclides.

M

Maximally Exposed Individual (MEI) - The individual whose location and habits tend to maximize his/her radiation dose, resulting in a dose higher than that received by other individuals in the general population.

Minimum Detection Limit (MDL) - The lowest level to which an analytical parameter can be measured with certainty by the analytical laboratory performing the measurement. While results below the MDL are sometimes measurable, they represent values which have a reduced statistical confidence associated with them (less than 95% confidence).

Mean Sea Level (MSL) - The average height of the sea for all stages of the tide. Used as a benchmark for establishing groundwater elevations.

Mixed waste - Waste that contains a hazardous waste component regulated under Subtitle C of the RCRA and a radioactive component.

Monitoring - The collection and analysis of samples or measurements of effluents and emissions for the purpose of characterizing and quantifying contaminants, and demonstrating compliance with applicable standards.

Monitoring Well - A well that collects groundwater for the purposes of evaluating water quality, establishing groundwater flow and elevation, determining the effectiveness of treatment systems and determining whether administrative or engineered controls designed to protect groundwater are working as intended.

O

Onsite - The area within the boundaries of a site that is controlled with respect to access by the general public.

Opacity - Under the Clean Air Act, a measurement of the degree to which emissions (e.g., smoke) reduce the transmission of light and obscure the view of an object in the background.

Operable Unit (OU) - Division of a contaminated site into separate areas based on the complexity of the problems associated with it. Operable units may address geographical portions of a site, specific site problems, or initial phases of an action. They may also consist of any set of actions performed over time or any actions that are concurrent, but located in different parts of a site. An operable unit can receive specific investigation, and a particular remedy may be proposed. A Record of Decision (ROD) is prepared for each operable unit. (See Record of Decision.)

Outfall - The place where wastewater is discharged.

Ozone - A form of oxygen formed naturally in the upper atmosphere and providing a shield for the Earth from the sun's ultraviolet rays.

P

Permit - An authorization issued by a federal, state or local regulatory agency. Permits are issued under a number of environmental regulatory programs, including RCRA, CAA, CWA, and TSCA, and they grant permission-e.g., permission to operate, to discharge, to construct, etc. Permit provisions may include emission/effluent limits and other requirements such as the use of pollution control devices, and monitoring, recordkeeping and reporting. Called a "license" or "registration" under some regulatory programs.

pH - A measure of hydrogen ion concentration in an aqueous solution. Acidic solutions have a pH from 0 to 6; basic solutions have a pH greater than 7 and up to 14; and neutral solutions have a pH of 7.

Plume - A body of contaminated groundwater flowing from a specific source. The movement of the groundwater is influenced by such factors as local groundwater flow patterns, the character of the aquifer in which groundwater is contained, and the density of contaminants.

Polychlorinated biphenyls (PCBs) - A family of organic compounds used from 1926 to 1979 (when they were banned by EPA) in electric transformers, lubricants, carbonless copy paper, adhesives, and caulking compounds. PCBs are extremely persistent in the environment because they do not break down into new and less harmful chemicals. PCBs are stored in the fatty tissues of humans and animals through the bioaccumulation process.

Potable Water - Water of quality sufficient for use as drinking water without endangering the health of people, plants or animals.

Point source - Any confined and discrete conveyance (e.g., pipe, ditch, well, or stack) of a discharge.

Pollution - Levels of contamination that may be objectionable (perhaps due to a threat to health [see contamination]).

Pollution Prevention - The use of processes, practices, materials or products that avoid, reduce or control pollution. Processes may include recycling, process changes, control mechanisms, efficient use of resources and material substitution. The potential benefits of pollution prevention include the reduction of adverse environmental impacts, improved efficiency and reduced costs.

Precision - The dispersion around a central value, usually represented as a variance, standard deviation, standard error, or confidence interval.

Putrescible Waste - Garbage that contains food and other organic biodegradable materials. There are special management requirements for this waste in 6NYCRR Part 360.

Q

Quality Assurance (QA) - Any action in environmental monitoring to ensure the reliability of monitoring and measurement data. Aspects of quality assurance include procedures, such as, inter-laboratory comparison studies, evaluations, and documentation.

Quality Control (QC) - The routine application of procedures within environmental monitoring to obtain the required standards of performance in monitoring and measurement processes. QC procedures include calibration of instruments, control charts, and analysis of replicate and duplicate samples.

R

Radionuclide - A radioactive element characterized by the number of protons and neutrons in the nucleus. There are several hundred known radionuclides, both artificially produced and naturally occurring.

Recharge - The process by which water is added to a zone of saturation (aquifer) from surface infiltration. An area where rainwater soaks through the earth to reach an aquifer.

Recharge Basin - A basin (natural or artificial) that collects water. The water will infiltrate to the aquifer.

Record of Decision (ROD) - Documents the regulators' decision for the selected remedial action. The ROD also includes the responsiveness summary and a bibliography of documents that were used to reach the remedial decision. When the ROD is finalized, remedial design and implementation can begin.

Release - Spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of a hazardous substance, pollutant, or contaminant into the environment. The National Contingency Plan also defines the term to include a threat of release.

Remedial (or Remediation) Alternatives - Options considered under the Comprehensive Environmental Compensation and Liability Act (CERCLA) for cleaning up contamination at a site, such as an Operable Unit (OU) or Area of Concern (AOC). Remedial actions are long-term activities that stop or substantially reduce releases or prevent possible releases of hazardous substances that are serious but not immediately life-threatening. See also Feasibility Study (FS) and Record of Decision (ROD).

Remedial Investigation (RI) - An investigation that includes extensive sampling and laboratory analyses

to characterize the nature and extent of contamination, define the pathways of migration, and measure the degree of contamination in surface water, groundwater, soils, air, plants, and animals. Information gathered during the RI attempts to fully describe the contamination problem at the site so that the appropriate remedial action can be developed.

Removal Actions or Removals - Interim actions that are undertaken to prevent, minimize, or mitigate damage to the public health or environment that may otherwise result from a release or threatened release of hazardous substances, pollutants, or contaminants pursuant to CERCLA, and that are not inconsistent with the final remedial action. Under CERCLA or Superfund, the U.S. Environmental Protection Agency may respond to releases or threats of releases of hazardous substances by starting a removal action. The purpose of the removal action is to stabilize or clean up an incident or site that poses an immediate threat to public health or welfare. Removal actions differ from remedial actions. However, removal actions must contribute to the efficiency of future remedial actions.

Roughing Filter - A filter used to remove large particulate matter from a wastewater stream prior to treatment, via ion exchange, adsorption or another refined treatment technique.

Run-off - The movement of water over land. Run-off can carry pollutants from the land into surface waters or uncontaminated land.

S

Sampling - The extraction of a prescribed portion of an effluent stream or environmental media for purposes of inspection or analysis.

Sediment - The layer of soil and minerals at the bottom of surface waters, such as streams, lakes, and rivers that may contain contaminants.

Sensitivity - The minimum amount of an analyte that can be repeatedly detected by an instrument.

Sludge - Semi-solid residue from industrial or water treatment processes.

Soil Vapor Extraction - An in-situ method of extracting volatile organic chemicals from soil. The chemicals are extracted by applying a vacuum to the soil and collecting the air, which can be further treated to remove the chemicals or discharged to the atmosphere.

Sole-Source Aquifer - An area defined by the U.S. Environmental Protection Agency where the only source of drinking water is groundwater.

Stakeholder - People or organizations with vested interests in BNL and its environment and operations.

State Pollution Discharge Elimination System (SPDES) - A permit issued by the state that regulates the discharge of wastewaters. This permit specifies the maximum discharge limits for the parameters present in the particular discharge.

Stripping - A process used to remove volatile contaminants from a substance (see also Air Stripping).

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

T

Trichloroethylene or Trichloroethene (TCE) - A stable, colorless liquid with a low boiling point. TCE has many industrial applications, including use as a solvent and as a metal degreasing agent. TCE may be toxic to people when inhaled or ingested, or through skin contact, and can damage vital organs, especially the liver (see Volatile Organic Compounds).

TLD - Thermoluminescent dosimeter, a device used to measure integrated external penetrating radiation exposure.

U

Upgradient/Upslope - A location of higher groundwater elevation.

Underground Storage Tank (UST) - A stationary device, constructed primarily of non-earthen material, designed to contain petroleum products or hazardous materials. In a UST, 10% or more of the volume of the tank system is below the surface of the ground.

V

Vernal Pool - a small, isolated contained basin that holds water on a temporary basis, most commonly

during winter and spring. It has no aboveground outlet for water, and is extremely important to the life cycle of many amphibians (such as the spotted salamander), as it is too shallow to support fish, a major predator of amphibian larvae.

Volatile Organic Compounds (VOCs) - Secondary petrochemicals, including light alcohols, acetone, trichloroethylene, perchloroethylene, dichloroethylene, benzene, vinyl chloride, toluene, and methylene chloride. These potentially toxic chemicals are used as solvents, degreasers, paints, thinners, and fuels. Because of their volatile nature, they readily evaporate into the air, increasing the potential exposure to humans. Due to their low water solubility, environmental persistence, and widespread industrial use, they are commonly found in soil and groundwater

W

Waste Minimization - Associated with pollution prevention, but more likely to occur after the waste has already been generated (at the "end-of-the-pipe"). Includes techniques such as volume reduction (compaction, evaporation) and treatment to remove contaminants.

Water table - The water-level surface below the ground at which the unsaturated zone ends and the saturated zone begins. It is the level to which a well that is screened in the unconfined aquifer would fill with water.

Watershed - The region draining into a river, a river system, or a body of water.

Weighting factor - A factor which, when multiplied by the dose equivalent delivered to a body organ or tissue, yields the equivalent risk due to a uniform radiation exposure of the whole body.

Wind rose - A diagram that shows the frequency of wind from different directions at a specific location.