Glossary of Technical Terms

Administrative Consent Order (ACO) – An enforcement document that compels a responsible party to initiate cleanup efforts.

Background Samples – Samples that are collected and used to compare site conditions to the surrounding environment. Background samples are collected and handled in the same manner as all other samples.

Biased Sample – Samples which are collected at locations based on historical information; behavior of contaminants or; knowledge about the physical system’s matrix (the physical system’s effect on fate of transport).

Blind Samples – A quality assurance sample in which the laboratory performing the analysis is unaware of the sample’s true location this sample is collected a duplicate.

Calibration – Process of adjusting an instrument’s read out so that it corresponds to actual concentrations. It involves checking the instrument with a known concentration of a surrogate to insure that the instrument provides a proper response.

Caliper – A mechanical device that is used to measure the diameter of a borehole.

Cleanup Standard – The combination of numeric and narrative standards established pursuant to this chapter for a contaminant or group of contaminants.

Colorimetric Tube – Device used to estimate the concentration of a specific gas in air. A known volume of contaminant is pulled through the tube and reacts with the indicator chemical producing a colored stain whose length is proportional to the contaminant’s concentration.

Combustible Gas Indicator (CGI) – Instrument used to determine the potential for combustion or explosion in an unknown atmosphere.

Composite Sample – A non-discrete sample composed of more than one specific aliquot collected at various sampling points or times.

Contamination Reduction Zone – Transition zone between contaminated area (exclusion zone) and clean area. The zone is where all personnel decontamination of hazardous waste is conducted.

Department – The New Jersey Department of Environmental Protection.

Dielectric Constant – The relationship between two charges, that is their distance of separation in relation to the force of attraction.

Diffusion Sampler – Type of sampling device which functions by the passive movement of contaminant molecules through a concentration gradient created within a stagnant layer of air between the contaminated atmosphere and the indicator material.

Distilled Water – Prepared by thermal distillation using a still of all-borosilicate glass, fused quartz, tin or titanium with the distillate meeting the following characteristics of Type I (Type II) water:

- Resistivity (megohm-cm @ 25øC) greater than 10  (greater than 1)
- Conductivity (umho/cm @ 25øC) less than 0.1  (equal to 1)
- Total oxidizable organic carbon (mg/L) less than 0.05  (less than 0.2)
- Total solids (mg/L) less than or equal to 0.1  (equal to 1)
- SiO2 (mg/L) less than 0.05  (less than 0.1)
Deionized Water – Prepared by passing feedwater through a mixed-bed ion exchanger, consisting of strong anion and strong cation resins mixed together. The resultant water shall have the same characteristics as those for distilled water noted above.

Electrical Resistivity – Geophysical sensing technique used to determine the structure and physical properties of subsurface geologic materials which can be used to detect anomalies which may indicate the presence of hazardous materials (e.g. drums, containers).

Electromagnetics – Geophysical method which induces and detects electrical current flow within geologic strata.

Environmental Samples – Samples of naturally occurring matrices such as soil, sediment, ground water, surface water and air.

Exclusion Zone – Designated zone of a hazardous waste site where contamination is known to or may occur and can only be entered with appropriate personnel protection.

Field Blank – A QA/QC sample used to indicate potential contamination from ambient air and sampling instruments.

Flame Ionization Detector (FID) – An air monitoring instrument that utilizes the principle of hydrogen flame ionization for detection and measurement of organic vapors.

Flowmeter – Measures the vertical movement of fluid in a borehole.

Gas Chromatography – Analytical technique for separating compounds of a sample and qualitatively and quantitatively identifying them.

Geostatistics – Statistical methodology that incorporates contaminant relationships between sample locations to derive conclusions about concentrations at locations lying between those points.

Grab Sample – A discrete aliquot that is representative of one specific sample site location at a specific point in time.

Ground Water – The portion of the water beneath the land surface that is within the zone of saturation (below the seasonally high water table) where all pore spaces of the geologic formation are filled with water.

Handling Time – All trip blanks, field blanks, and environmental sample containers must be received in the field within one day of preparation in the lab. They may be held on site for a maximum of two calendar days. They must then be shipped back to the lab at the end of the second calendar day. All samples and blanks must be maintained at 4øC while on site and during shipment.

Henry’s Law Constant – Expressed as a ratio between the partial pressure of the vapor and the concentration in the liquid.

Holding Time – The analytical time clock for all samples and blanks measured between the time of sample collection and analytical extraction. Typically determined by matrix and specific analytical method requirements.

Homogenization – Process whereby a sample is mixed in a stainless steel bowl or in-situ until a consistent physical appearance is achieved. This is performed for all parameters except volatiles.

Koc – A coefficient that relates the partitioning of the organic compound between the adsorbed phase and the soil solution relative to the organic carbon fraction.
Kriging – A geostatistical technique, which interpolates concentration values for locations between sampling points.

Laboratory Decontaminated – The decontamination of sampling equipment and bottles in a controlled setting.

Lower Explosive Limit (LEL) – Minimum concentration of a combustible gas measured as a percentage of the total constituents present in the atmosphere that will combust when ignited.

Magnetometer – Instrument which is used to measure magnetic field strength in units of gamma.

Matrix Spike – A laboratory Q/A sample comprised of the same matrix of the samples being analyzed. The sample is injected with a known concentration of a specific analyte.

Method Blank – A laboratory Q/A blank comprised of demonstrated analyte free water that is analyzed simultaneously with the environmental sample.

Method Detection Limit – The minimum concentration of a contaminant that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

Passive Dosimeter – Device which utilizes the processes of diffusion and permeation to move a contaminant through a collection medium.

Performance Evaluation Sample (PE) – Pre-measured, pre-determined samples of known concentration that are submitted by the NJDEP as a QA/QC check on laboratory performance.

Photo Ionization Detector (PID) – An air monitoring instrument that utilizes the principle of photoionization for the detection and measurement of organic and inorganic vapors.

Pollutant – Any substance defined as such pursuant to the Water Pollution Control Act, N.J.S.A 58:10A-1 et seq.

ppb – Parts per billion, micrograms per liter (ug/L), or micrograms per kilogram (ug/Kg).

ppm – Parts per million, milligrams per liter (mg/L), or milligrams per kilogram (mg/Kg).

Piezometer – A cased boring used to determine the level of ground water.

Retention Time – Period of time from the injection of the sample into the gas chromatography system until the point of maximum detector response for each substance.

Sample Network – Statistical method used to describe the frequency and location of samples to be collected.

Semivariogram – Tool that shows the relationships between observations at sampling points based on the distance from each sample to the other samples.

Soil – The unconsolidated mineral and organic matter on the surface of the earth that has been subjected to and influenced by geologic and other environmental factors.

Soil Gas – Subsurface gas that may be generated by biological, chemical and physical decomposition of spilled, stored or illegally disposed waste.

Soil Texture – A measure of the percentages of various particles size groups in a volume of soil, typically sand, silt and clay.
Sorbent Samples – Consist of air samples, which are collected utilizing special adsorbents such as activated carbon and silica gel.

Subsurface Soil – The soil more than two feet below grade and extending downward to the top of the seasonally high water table.

Support Zone – Uncontaminated area where administrative functions needed to keep site operations running smoothly are conducted.

Surface Soil – The top two feet of soil below grade.

Trip Blank – A QA/QC sample whose purpose is to place a mechanism of control on sample bottle preparation, blank water quality and sample handling.

Upper Explosive Limit (UEL) – Maximum concentration of a gas in percent that will combust in the atmosphere.

Vapor Pressure – The pressure of a confined liquid such that the vapor collects above it.

Volatilization – Process whereby certain compounds evaporate rapidly and easily into air at ordinary temperatures.

Volumetric Water Content – The ratio of the volume of water in a porous volume to the total volume.

Waste Samples – Samples that are comprised of process waste or other man made materials.

Water Solubility – The extent to which a compound dissolves in water.

Water Table – The seasonally high level in the saturated zone at which the hydraulic pressure is equal to atmospheric pressure.

Well Purging – Process in which the standing water in a well column is evacuated.

Weir – A device built to back up water.

**Acronyms**

ACO – Administrative Consent Order
AOC – Area of Concern
ARARS – Applicable or Relevant and Appropriate Requirements
ASTM – American Society for Testing and Materials
BA – Biological Assessment
BEERA – Bureau of Environmental Evaluation and Risk Assessment.
BEMSA – Bureau of Environmental Measurements and Site Assessment
BGWDC – Bureau of Ground Water Discharge Control
BHWE – Bureau of Hazardous Waste Engineering
BN/AE + 20 – Base Neutrals/Acid Extractables + 20
BOD – Biological Oxygen Demand
BTEX – Benzene, Toluene, Ethyl Benzene, Xylenes (also BTX)
CC – Calibration Compound
CERCLA – Comprehensive Environmental Response, Compensation, Liability Act
CFR – Code of Federal Regulations
CGA – Combustible Gas Analyzer
CI – Curie (Radiation Unit)
CIR – Color Infrared
CLP – Contract Laboratory Program
CM – 1. Case Manager
      2. Corrective Measures
COC – Chain of Custody
COD – Chemical Oxygen Demand
COLWASA – Composite Liquid Waste Sampler
CPC – Chemical Protective Clothing
CRDL – Contract Required Detection Limit
CWA – Clean Water Act
DL Detection Limit
DNAPL – Dense Non-Aqueous Phase Liquid
DOW – Depth of Well
DO – Dissolved Oxygen
DQO – Data Quality Objectives
DRI – Direct Reading Instruments
DRMR – Division of Remediation Management and Response
DRS – Division of Remediation Support
DSWHW – Division of Solid Waste and Hazardous Waste
DTW – Depth to Water
ECD – Electron Capture Detector
ECRA – Environmental Cleanup Responsibility Act
EIS – Environmental Impact Statement
EM – Electromagnetic (usually refers to geophysics)
EMS – Environmental Measurements Section
EPA – Environmental Protection Agency
EP – Extraction Procedure
ESLI – End of Service Life
FID – Flame Ionization Detector
FPXRF – Field Portable X-Ray Fluorescence (s)
FS – Feasibility Study
FSP-QAPP – Field Sampling Plan – Quality Assurance Project Plan
FSPM – Field Sampling Procedures Manual
GAC – Granular Activated Carbon
GC/MS – Gas Chromatograph/Mass Spectrometer
GFAA – Graphite Furnace Atomic Absorption Spectroscopy
GIS – Geographic Information System
GPC – Gel Permeation Chromatography
GPR – Ground Penetrating Radar
HASP – Health and Safety Plan
HI – Hazard Index (for noncarcinogens)
HOC – Halogenated Organic Compounds
HPLC – High Pressure Liquid Chromatography
HSL – Hazardous Substance List
HSO – Health & Safety Officer
HSWA – Hazardous and Solid Waste Amendments (to SARA)
HRS – Hazard Ranking System
HWS – Hazardous Waste Sites
ID – Infrared Detector
IDL – Instrument Detection Limit
IDLH – Immediate Dangers to Life and Health
IFB – Invitation for Bids
IRIS – Integrated Risk Information System
IRM – Interim or Initial Remedial Measure
LC50 – Median Lethal Concentration in a Bioassay
LD50 – Dose Causing 50% Mortality in Bioassay
LDR – Land Disposal Restrictions
LEL – Lower Explosive Limit
MCL – Maximum Contaminant Level (for drinking water)
MDL – Method Detection Limit
MOA – Memorandum of Agreement
MOU – Memorandum of Understanding
MSDS – Material Safety Data Sheet
MSHA – Mine Safety and Health Administration
MSP – Medical Surveillance Plan
MTBE – Methyl Tertiary Butyl Ether
NAPL – Non-Aqueous Phase Liquid
NBS – National Bureau of Standards
NIOSH – National Institute of Occupational Safety
NJAC – New Jersey Administrative Code
NJDEP – New Jersey Department of Environmental Protection
NJPDES – New Jersey Pollutant Discharge Elimination System
NPDES – National Pollutant Discharge Elimination System
NPL – National Priorities List
O & M – Operation and Maintenance
ORD – Office of Research and Development (EPA – Cinn, Ohio).
  To order EPA Publications call (513) 569-7562
ORME – Other Regulated Materials
OSC – On-Scene Coordinator
OSHA – Occupations Safety and Health Administrative
OSWER – Office of Solid Waste and Emergency Response
OVA – Organic Vapor Analyzer
PA/SI – Preliminary Assessment/Site Inspection
PAH – Polycyclic (Polynuclear) Aromatic Hydrocarbon
PCBs – Polychlorinated Biphenyls
PCI – Picocurie (equiv. 10-12 Curie Radiation)
PE – Performance Evaluation sample
PEL – Permissible Exposure Limit
PF – Protection Factor
PHC – Petroleum Hydrocarbons (see TPH)
PID – Photoionization Detector
PP + 40 – Priority Pollutant List + 40 Tentatively Indent. Compounds
PPB – Parts Per Billion
PPE – Personal Protective Clothing and Equipment
PPL – Priority Pollutant List (see PP + 40)
PPM – Parts Per Million
PSI – Pounds Per Square Inch
PTFE – Polyetrafluoroethylene (e.g. Teflon)
PVC – Polyvinyl Chloride
QA/QC – Quality Assurance/Quality Control
QAPP – Quality Assurance Project Plan (also QAPjP)
QAPMP – Quality Assurance Management Plan
RCRA – Resource Conservation Recovery Act
RD – Remedial Design
REL – Recommended Exposure Limit
RFA – RCRA Facility Assessment
RFI – RCRA Facility Investigation
RFP – Request for Proposals
RI/FS – Remedial Investigation/Feasibility Study
ROD – Record of Decision
RP – Responsible Party
RSD – Relative Standard Deviation
RTK – Right to Know
SAP – Sampling and Analysis Plan
SAS – Special Analytical Services
SAR – Supplied Air Respirator
SARA – Superfund Amendments and Reauthorization Act
SCBA – Self Contained Breathing Apparatus
SCS – Soil Conservation Service
SDWA – Safe Drinking Water Act
SOP – Standard Operating Procedure
SOW – Scope of Work or Statement of Work
SP – Self Potential Devices
STEL – Short Term Exposure Limit
SVE – Soil Vacuum (Vapor) Extractions
SVOC – Semivolatile Organic Compounds (same as BN/AE)
SWDA – Solid Waste Disposal Act
SWMU – Solid Waste Management Unit (RCRA)
TAL – Target Analyte List (Inorganics)
TBA – Tertiary (Tert) Butyl Alcohol
TBC – To be Considered (Refers to ARARs)
TC – 1. Technical Coordinator
2. Toxicity Characteristic
TCDD – Tetrachlorodibenzo-p-dioxin, usually 2,3,7,8-TCDD
TCDF – Tetrachlorodibenzo furan
TCE – Trichloroethylene, syn. – Trichloroethene
TCL – Target Compound List (TCL + 30)
TCLP – Toxicity Characteristic Leaching Procedure
TIC – 1. Tentatively Identified Compound from Mass Spec. Library Search, Syn. – Non-Target Compounds
2. Total Ion Chromatogram
TIP – Total Ionization Present
TLV – Threshold Limit Value
TOC – Total Organic Carbon
TOSCA – Toxic Substance Control Act
TOX – Total Organic Halogen Analysis
TPH – Total Petroleum Hydrocarbons (see PHC)
TWA – Time Weighted Average
UEL – Upper Explosive Limit
UGST – Underground Storage Tank (also UST)
USACE – U.S. Army Corps of Engineers (also COE)
USATHAMA – U.S. Army Toxic and Hazardous Materials Agency
USEPA – United States Environmental Protection Agency
USGS – Underground Storage Tank (also UST)
VO – Volatile Organics (VOC, VOA, VO + 10)
VOA + 10 – Volatile Organics + 10
VOC – Volatile Organic Compounds
VOST – Volatile Organic Sampling Train (Air Sampling)
VSP – Vertical Seismic Profiling
WP – Work Plan
XRF – X-Ray Fluorescence, Syn. (FPXRF) – Field Portable XRF