

Technical Glossary

The following is a list of technical terms and abbreviations that are used on this website and/or in documents housed on the website. Most are terms that are frequently used by environmental professionals across the U.S. Also included are the abbreviations for Alabama organizations and terms specific to the CBP project, such as names of certain areas.

ADEM - Alabama Department of Environmental Management

ADPH - Alabama Department of Public Health

ALDOT - Alabama Department of Transportation

Alkalinity - The capacity of water for neutralizing an acid solution.

AMSL - Above Mean Sea Level

Aquifer - An underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage (also referred to as groundwater).

ARARs - Applicable or Relevant and Appropriate Requirements

Auger - Any of various tools or devices used for boring holes.

BLS - Below Land Surface

Borehole - A hole bored or drilled in the earth.

Continuous Multichannel Tubing (CMT) wells are one type of well used to assess TCE in the groundwater at the CBP.

Coliseum Boulevard Plume (CBP) - The CBP is an area within north Montgomery, Alabama where dissolved TCE in the groundwater equals or exceeds 5 parts per billion (ppb).

CMIP - Corrective Measures Implementation Plan

CME - Corrective Measures Evaluation

COC - Constituent of Concern

COG (Community Outreach Group) - A group of residents and business owners who live or work in the CBP area. COG members meet with technical project personnel to discuss project activities and provide feedback from the community's perspective.

Dissolved Oxygen (DO) - Measure of water quality indicating free oxygen dissolved in water.

DNAPL - Dense Non-Aqueous Phase Liquids (i.e., separated liquid product that is heavier than water).

EPA - Environmental Protection Agency

FID - Flame Ionization Detector

FS - Feasibility Study

Gas Chromatograph (GC) - An instrument utilized to perform an analytical method that is used for the separation, identification, and determination of chemical components in a complex water or soil mixture.

Geology - The study of rocks and minerals, in particular the study of the Earth or another planet, including its rocks, soil, and minerals, and its history and origins.

Geoprobe - A Geoprobe® is a hydraulically-powered instrument used for the installation of soil boreholes (sometimes referred to as probe holes). The Geoprobe® uses a direct push technique to install a small (typically one to two inches in diameter) hole into the ground subsurface for the purpose of collecting a soil or groundwater sample or to install a groundwater monitoring well.

Groundwater - water present below ground surface.

Groundwater Monitoring Wells - Devices installed into the ground to allow access and collection of groundwater. Groundwater monitoring wells are used to assess TCE concentrations in groundwater.

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

IC (Institutional Controls) - Legal and administrative controls (non-engineering) used to limit or reduce exposure to contamination by limiting land or resource (i.e. groundwater) use.

ICM - Interim Corrective Measure

Kilby Ditch - The Main Kilby Ditch and West Kilby Ditch are two principal stormwater ditches that convey surface-water runoff at the CBP.

LTM - Long Term Monitoring

Low-Lying Area - areas at the northeastern perimeter of the CBP where groundwater discharges to surface water.

MCL - Maximum Containment Level - The maximum level of certain contaminants permitted in drinking water supplied by a public water system as set by the US EPA under the federal Safe Drinking Water Act.

MSL - Mean Sea Level - The mean height of water in the sea between highest and lowest tides.

µg/l - micrograms per liter or parts per billion (ex. one dollar for every \$1,000,000,000)

µg/kg - micrograms per kilogram or parts per billion

mg/l - milligrams per liter or parts per million (ex. one dollar for every \$1,000,000)

mg/kg - milligrams per kilogram or parts per million

ORP - Oxidation Reduction Potential - The electrical potential required to transfer electrons from one compound or element (the oxidant) to another compound or element (the reductant); used as a qualitative measure of the state of oxidation in water treatment systems.

Permeability - The ability of a material to allow the passage of a liquid, such as water through rocks. Permeable materials, such as gravel and sand, allow water to move quickly through them, whereas impermeable materials, such as clay or silt, do not allow water to flow freely.

pH - An expression of the intensity of the basic or acid condition of a liquid. The pH may range from 0 to 14, where 0 is the most acidic, 7 is neutral. Neutral waters usually have a pH between 6.5 and 8.5.

Probehole (PH) 12 Area - The PH12 Area contains the greatest concentrations of TCE in the groundwater.

PID - Photoionization Detector - A type of gas detector. The photoionization detector is capable of giving instantaneous readings and monitoring continuously in real time.

Piezometer - A non-pumping well, generally of small diameter, that is used to measure the elevation of the water table.

Plume - A body of contaminated groundwater originating from a specific source and influenced by such factors as the local groundwater flow pattern, density of the contaminant, and character of the aquifer.

Plume Characterization - A study that provides information on concentration profiles and rates of migration of a contaminant plume.

Porosity - A measure of the water-bearing capacity of subsurface rock. With respect to water movement, it is not just the total magnitude of porosity that is important, but the size of the voids and the extent to which they are interconnected, as the pores in a formation may be open, or interconnected, or closed and isolated.

Potable Water - Water of a quality suitable for drinking.

PPB - Parts per billion

PPM - Parts per million

QA/QC - Quality Assurance/Quality Control

RA - Remedial Action

RD - Remedial Design

Remediation - The process of reducing the concentration of a contaminant (or contaminants) in air, water, or soil media to a specific level.

Representative Sample - A sample that properly depicts the chemical and physical character of the in-place ground water or soil.

RI - Remedial Investigation

Rotasonic Drilling - A drilling technology that utilizes a hydraulically-powered drill head that applies vibration to the drill.

Slug Test - A single well test conducted to determine the in situ hydraulic conductivity of low to moderate hydraulic conductivity formations by the instantaneous addition of a known quantity of water or a solid, cylindrical object of known displacement into a well, and the subsequent measurement of the resulting well recovery. Recovery is measured by the change in water levels over the brief period of time after the "instantaneous addition" noted above.

Solubility - The amount of mass of a compound that will dissolve in a unit volume of solution.

Southwest Sand and Gravel Mine Operations (Borrow Pits) - North Montgomery Materials and Asphalt Contractors operate sand and gravel mines on properties that encompass about 320 acres and 114 acres, respectively, in the southwest portion of the CBP.

Static Water Level - The elevation of the top of a column of water in a monitoring well or piezometer that is not influenced by pumping or conditions related to well installation, hydrologic testing, or nearby pumpage.

Summa Canister - An airtight, stainless-steel container. The air being sampled is "drawn" into the canister by a vacuum over a period of time thereby eliminating the need for pumps or other powered equipment.

Surficial - Of or relating to the surface.

Surface Water - All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.)

TCE - Trichloroethylene or Trichloroethene

Topography - The physical features of a surface area including relative elevations and the position of natural and man-made features.

Turbidity - The amount of solid particles that are suspended in water and that cause light rays shining through water to scatter. Thus, turbidity makes the water cloudy or even opaque in extreme cases.

VOC - Volatile Organic Compound - Any organic compound which evaporates readily to the atmosphere. VOCs, other than TCE, have been detected in the quarterly groundwater samples that have been collected at the CBP. These other VOCs are: carbon tetrachloride; cis-1,2-dichloroethene (cis-1,2-DCE); 1,1-dichloroethene (1,1-DCE); vinyl chloride, and chloroform. Plots of the concentrations of carbon tetrachloride; cis-1,2-DCE; 1,1-DCE; and chloroform.

Volatile - Any substance which evaporates readily.

Water Table - The surface in a ground-water body at which the pore water pressure is atmospheric. It can be measured by installing shallow wells extending a few feet into the zone of saturation and then measuring the water level in those wells.