

On-Going Work at the Fort Ord Closed Landfill

Fort Ord landfill history

Like many cities, Fort Ord maintained a landfill during its years as an Army training base. The landfill was used for residential and on-base commercial waste disposal. Like many such landfills, chemicals leaked into the ground beneath the Fort Ord's landfill waste. In addition, lead

contaminated soil from cleanup of the former firing ranges at the beaches were also disposed of in this area. The landfill has been closed and is now covered with a special "cap." This cap consists of a geomembrane that prevents water from reaching the waste and moving chemicals through the soil into the groundwater beneath the landfill (see diagram of landfill cross section on next

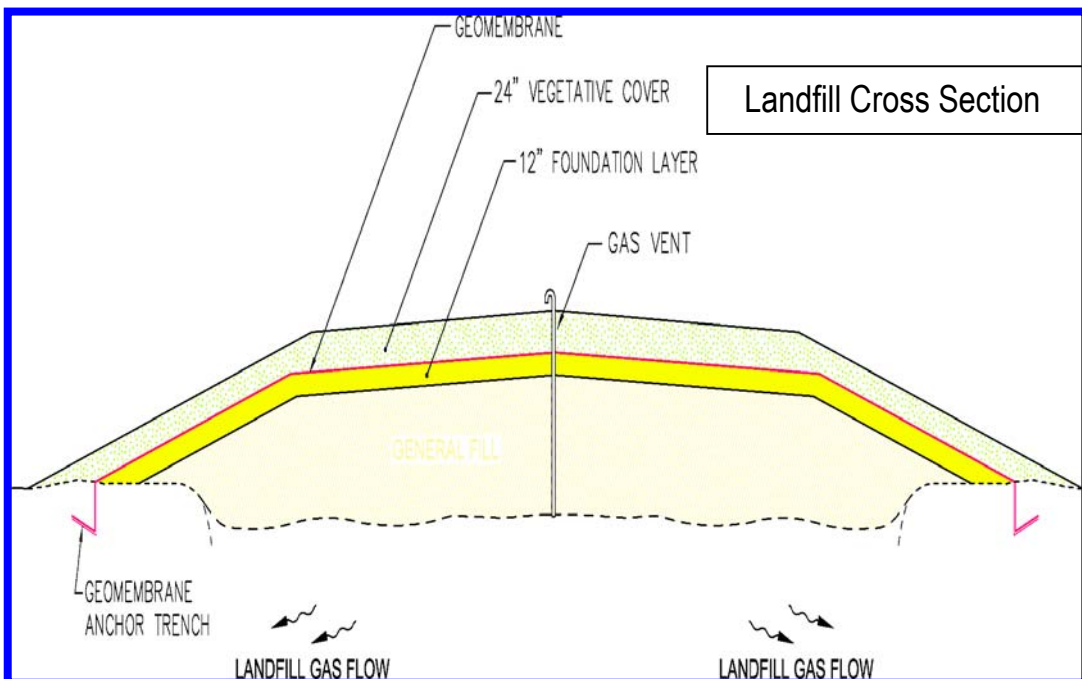


page). Area A of the landfill (see photograph on this page) was clean closed. All refuse in Area A was removed and placed in the other Areas of the landfill under the cap.

Groundwater beneath the landfill area was contaminated prior to the closure of the landfill. A groundwater treatment facility has been operating since 1995. The U.S. Environmental Protection Agency (U.S. EPA), the California Regional Water Quality Control Board, and the California Department of Toxic Substances Control have overseen the cleanup. This project is often referred to as Operable Unit 2 or "OU2."

What happens on the closed landfill?

Now that the landfill is closed, regular activities ensure that the treatment systems are efficiently operating and that the cap remains in good working order. The cap is inspected daily and repairs are made to minor damage caused by precipitation and animals. The Army monitors landfill gas in probes and vents, and samples the underlying groundwater as a part of its groundwater evaluation program. This monitoring has been conducted since the landfill was closed.



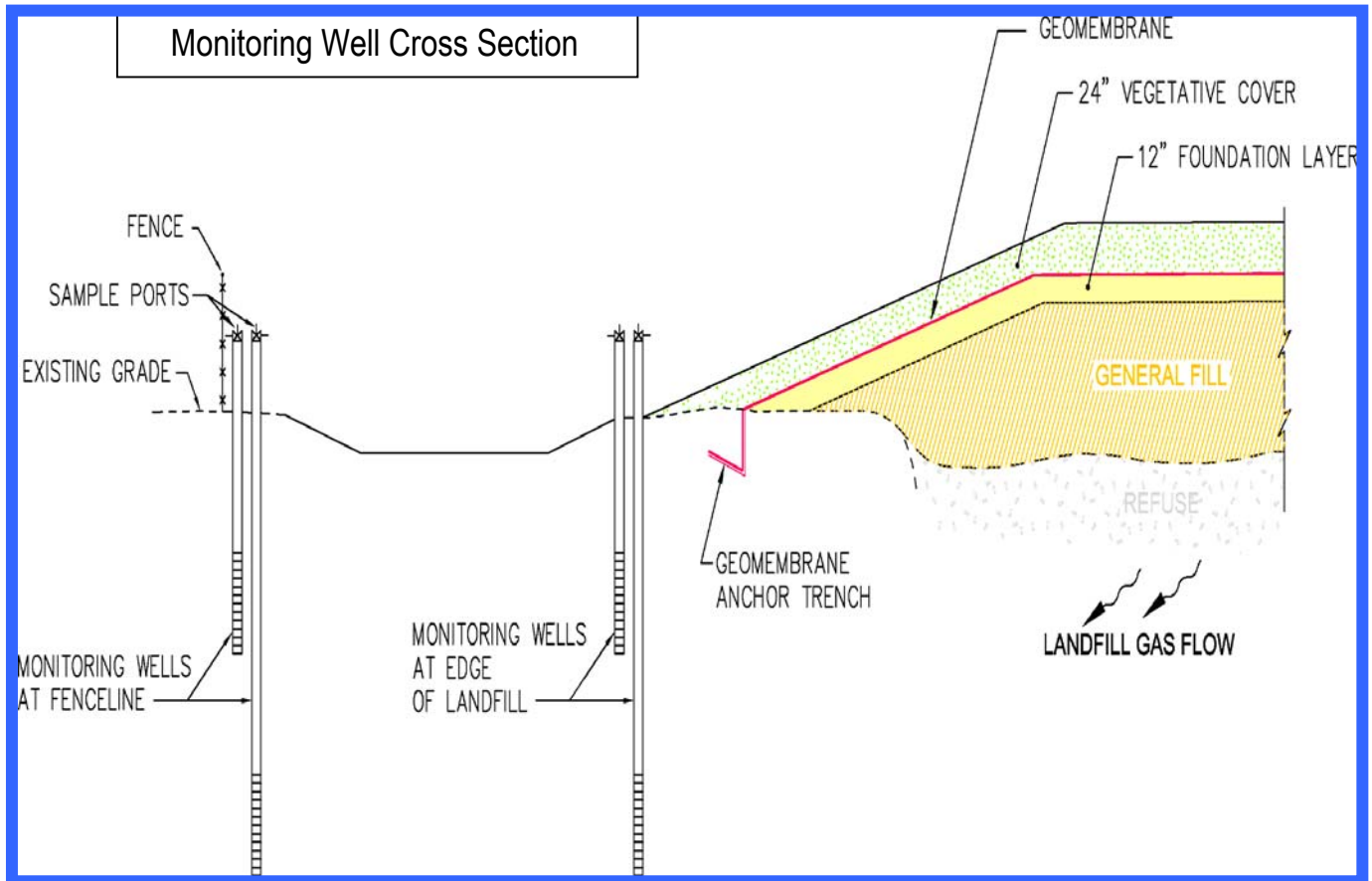
Why is there gas?

As with all landfills, the decay of the waste produces gasses (primarily methane, an odorless and colorless gas, and carbon dioxide). Over time, as wastes continue to degrade, less methane will be produced and eventually will decline to near zero. While methane gas has practically no toxic effects, at concentrations in air of 5 to 15 percent, methane can be ignited and could harm landfill workers and nearby residents.

Collecting samples of gas under the landfill cap

The Army has installed underground probes to monitor the landfill gas (see cross section on next page), and periodically has monitored the air at the surface to determine the levels of methane and potentially hazardous gasses in and around the landfill.

Recent measurements indicated that the methane in the soil around the landfill is higher than state standards. In response, the Army has installed a landfill gas collection system adjacent to the landfill near the closest residences (California State University Monterey Bay housing). The system draws methane and other gases from the soil surrounding the landfill and transports them to a treatment facility.



How it works: the current landfill gas treatment system

The landfill gas treatment system consists of two granular activated carbon units and five drums containing potassium permanganate. These units remove potentially hazardous chemicals (volatile organic compounds, or "VOCs") from the landfill gas. The treatment system is at the center of the landfill near Area E (see landfill photograph on previous page). The Army is operating the treatment system to maintain the methane concentrations in the soil at the landfill perimeter adjacent to Area F at acceptable levels in accordance with state regulations.



In March 2005, the Army began installation of an expanded extraction system that will include additional wells around the perimeter of Area F, and a new thermal treatment system to replace the existing carbon units. The expanded system is intended to continue to remove methane in the soil in order to comply with state regulations and to remove chemicals that might otherwise contribute to groundwater contamination, and it is expected to be online by August 2005. These chemicals include VOCs such as vinyl chloride and trichloroethene.