

Executive Summary

The Palos Verdes Landfill (Site) is located in Rolling Hills Estates, California, in Los Angeles County (Figure 1). Landfilling operations were conducted on the Site from 1952 through 1980. During operations, the Site accepted municipal, industrial, and hazardous wastes¹.

Volatile organic compounds were first detected in groundwater at the Palos Verdes Site in the early 1980s. As a result of the groundwater detections, a comprehensive Remedial Investigation (RI), Feasibility Study (FS), and Remedial Action Plan (RAP) were conducted and implemented. This work evaluated the effectiveness of environmental controls at the Site, health risks associated with living or working on or near the Site, and potential remedial actions. The recommended remedial measures were implemented and the Department of Toxic Substances Control (DTSC) approved the final remedial action for the Site on April 13, 1999. To verify that remedial actions continue to be protective of human health and the environment, DTSC reviews facility performance every five years.

This Five-Year Review was conducted pursuant to an agreement between DTSC (the lead agency overseeing the Site) and the County Sanitation Districts of Los Angeles County (Sanitation Districts) in accordance with United States Environmental Protection Agency (USEPA) guidelines for five-year reviews. The purpose of this Five-Year Review is to evaluate the implementation and performance of remedial actions at the Palos Verdes Landfill in order to determine if the implemented remedy is or will be protective of human health and the environment and whether remedial action objectives are being fulfilled. Due to concerns expressed by representatives from the Palos Verdes Landfill Citizens Advisory Board (CAB²), this Five-Year Review is considerably more comprehensive than five-year reviews typically performed for other landfills and contaminated sites. In addition, as a result of additional studies and analyses conducted to address CAB concerns, the time to conduct the review was longer than originally planned.

This Five-Year Review evaluates over 300,000 data points from routine data collection events conducted between January 1987 and December 2006. In addition, multiple special studies were conducted to further evaluate issues of concern for the CAB. The concerns that were evaluated include: potential gas migration through the landfill surface, potential subsurface gas migration at the perimeter of the landfill, emissions from the Gas-to-Energy facility, potential impacts to the Rancho Vista Elementary School, and potential contamination of cover soil. In addition, an updated Health Risk Assessment was prepared to evaluate the potential health risks associated with living or working at or near the Site.

The following findings were made by DTSC during this Five-Year Review:

¹ It is estimated that hazardous wastes made up a small percentage (3 to 4 percent) of the total volume of wastes disposed at the Site.

² Previous documents refer to the Community Advisory Group (CAG).

- The groundwater containment system is effective in keeping the groundwater plumes stable. Impacted groundwater is not used for water supply. The concentrations of groundwater contaminants observed at and near the Palos Verdes Landfill are low and the total mass of groundwater contaminants is declining.
- Surface air monitoring data indicate that air quality above the surface of the landfill is better than air quality quantified during the Remedial Investigation. There is little, if any, landfill gas emitted through the soil cover on the surface of the landfill demonstrating that the extensive landfill gas control system and soil cover at the Site provide effective containment of landfill gas.
- Monitoring data collected during the Five-Year Review confirm South Coast Air Quality Management District findings that the Palos Verdes Landfill does not impact the Rancho Vista Elementary School.
- The amount of landfill gas generated by the Palos Verdes Landfill has substantially declined over time (nearly 40 percent reduction between 1994 and 2006). As refuse decomposition and resulting gas production decline, there is less potential for subsurface gas migration from the landfill.
- Data obtained from onsite and offsite soil gas studies indicate that subsurface landfill gas is not migrating from the Palos Verdes Landfill into adjacent properties.
- The Main Site is covered with a cap approximately seven feet thick comprised of low permeability soil, which is regularly inspected and maintained. This cover soil limits emission of landfill gas and direct exposure to wastes and complies with applicable State Water Resources Control Board standards for final cover.
- Data indicate that the cover soil used at the Palos Verdes Landfill is clean fill material and no contaminated soil has been used to fill low spots on the Site.
- Seepage observed within Country Hills Estates and the Country Hills Shopping Center is the result of naturally occurring hydrogeologic and geochemical conditions and is not associated with the Palos Verdes Landfill.
- Existing monitoring programs adequately assess containment facilities and remedial measures at the Palos Verdes Landfill.
- Incremental lifetime cancer risks to onsite workers, visitors, and surrounding residents are well within the acceptable risk management goals established by DTSC for all subject receptors and land uses.
- A comparison of the projected risks in this report and those previously projected during the Remedial Investigation show a decline in risks to Site users and the surrounding residents.
- Landfill slopes were analyzed and were determined to be stable and able to withstand the most severe earthquake expected at the Site.

- The Site's emergency response and health and safety plans were thoroughly reviewed and the Site was determined to be compliant with applicable rules and regulations.

Thus, the Five-Year Review found that the remedial systems are functioning properly and continue to be protective of human health and the environment. As a result, no additional remedial measures are recommended. In addition, the current monitoring systems at the Site are effective and protective; thus, no additional monitoring systems are necessary.

The attached documents detail the findings and results from the various studies conducted to review the remedial actions for the Site and to provide answers to community questions.