



Colonial Pipeline Booster Station June 22, 2006

Introduction

Residents living near Colonial Pipeline Company's Danielsville Booster Station (DBS) have expressed concern about petroleum hydrocarbon contamination underlying the booster station and surrounding area. CHP received a request from a concerned citizen requesting a public health assessment. In response, GDPH reviewed community concerns, health outcome data, and environmental sampling data to assess whether exposure to contaminated groundwater has occurred, is occurring, or may occur at levels of health concern.

Site Description and History

Colonial Pipeline Company operates interstate pipelines transporting refined petroleum products from Texas and Louisiana to locations throughout the southeastern United States. Two of these petroleum pipelines pass through Madison County near Danielsville. The DBS is located two miles southwest of Danielsville, east of Highway 29 and northeast of Colbert Grove Church Road.

The site is in a hilly area covered with hardwood and pine forests and open fields. Currently, the DBS serves a 36-inch pipeline for transporting diesel fuel, kerosene, and other fuel oils. Seven known past releases of petroleum products occurred at DBS between 1966 and 1979. In December 1994, petroleum odors were noticed in the DBS water supply well.

Environmental Sampling

Ongoing investigations have been conducted for the DBS site and surrounding community since 1995 to characterize the extent of contamination released to environmental media (soil, groundwater, and surface water) from the site. Available data include groundwater samples collected from shallow saprolite and deep bedrock monitoring and residential wells in the areas. Groundwater samples were analyzed for BTEX (benzene, toluene, ethyl benzene, and xylene) and total petroleum hydrocarbons.

Results

A dissolved benzene plume in groundwater has been

defined as largely confined to the station yard and to the deep, bedrock aquifer. The concentrations and plume size have remained relatively constant from 1995 to 2005. Shallow, saprolite groundwater contamination has remained confined to an area underlying the DBS yard and has been a source of bedrock groundwater recharge. Shallow aquifer contamination has never migrated off-site to residential property near the DBS. Of the approximately 180 residential wells within a one-mile radius of the DBS, 133 (74%) are shallow (water-table wells), bored or dug wells in the saprolite. Residents having shallow, bored wells have never been exposed to site-related contaminants.

Exposure to benzene at levels of health concern is known to have occurred at six residences in the past. The longest exposure duration could have been six months. However, based on sampling frequencies and immediate mitigation of residential well water contamination, the actual exposure period is likely to have been less. Children and adults exposed to the maximum concentration of benzene at these six residences are not likely to be at an increased risk for non-cancer health effects, and have a very low increased risk (estimated at 3 cases per 100,000) for developing cancer.

Conclusions

GDPH has determined that this site poses **no apparent public health hazard**. Human exposure to contaminated well water occurred in the past, but exposures were unlikely to be at levels that will cause disease. Remediation at the site is on-going and current and future exposure pathways have been eliminated.

Recommendations

Precautions such as continued monitoring of residential wells in the area, semi-annual monitoring of the bedrock and saprolite aquifer plumes, continued remediation measures at the DBS site and monitoring the effectiveness of such remediation actions are recommended by CHP. Now that municipal water is available to residents in the Colbert Grove Church Road area, residents should hook up to the municipal water source for their household use.