



Maryland Department
of the Environment

FACTS ABOUT:
7-ELEVEN No. 22281

**ENVIRONMENTAL INVESTIGATION
7-ELEVEN NO. 22281
2400 PLEASANTVILLE ROAD, FALLSTON
HARFORD COUNTY, MARYLAND
MDE CASE NO. 2005-0120HA (OPEN)**

SITE LOCATION

The Maryland Department of the Environment, Oil Control Program, in coordination with the Harford County Health Department, is evaluating the impacts of methyl tertiary-butyl ether (MTBE) at the 7-Eleven (former Citgo) service station. Gasoline retail activities have been ongoing for over 20 years at the 7-Eleven under several business entities, namely: Ewing Oil; Southland Corporation; and currently 7-Eleven, Inc. This active gas station currently operates two second-generation double-walled fiberglass gasoline underground storage tanks (one 10,000-gallon and one 15,000-gallon) with piping material comprised of double-walled flexible plastic with secondary containment. The second-generation underground storage tank system was installed in 2008 to replace three 12,000-gallon cathodically-protected steel gasoline tanks. The site has Stage I and II vapor recovery systems. Currently, there are 17 on-site and 2 off-site monitoring wells and 4 tank field monitoring pipes at the facility. A granular-activated carbon filtration system is currently in place on the supply well that serves the 7-Eleven convenience store. The groundwater flow direction is north / northwesterly.

SITE HISTORY

Due to the elevated petroleum constituents detected in on-site monitoring wells, a direct push investigation was conducted in 2005, in which 15 borings were advanced for the collection of groundwater samples. Groundwater samples noted a possible hydrocarbon sheen in one boring and detected elevated levels of dissolved phase petroleum contaminants: benzene at 28 parts per billion (ppb), MTBE at 52,000 ppb, and total petroleum hydrocarbons - gasoline range organics (TPH-GRO) at 46 parts per million (ppm). Subsequently, eight monitoring wells were installed.

ENVIRONMENTAL INVESTIGATIONS AND ACTIONS

In 2006, three additional direct-push borings were advanced for sampling and three deep monitoring wells were installed. Pilot testing for soil vapor extraction and other remedial technologies, including a pumping test, were also conducted in 2006. A soil vapor extraction pilot test was initiated in November 2006 and operated until September 2008, when the first generation storage system was replaced. Approximately 5 pounds of TPH was recovered through September 2008. In January 2007, a membrane interface probe study was conducted, in which



five borings were advanced to approximately 25 to 45 feet below ground surface (bgs) for the evaluation of soil and groundwater quality. Samples indicated that MTBE was most prevalent in the 16 to 33-foot bgs zone in the shallow groundwater table. A historic monitoring well was located during this investigation and an additional monitoring well was installed during first quarter 2007.

In 2008, eight additional direct push borings were advanced in the area of the proposed replacement tank field for the collection of soil characterization samples prior to installation of the second-generation storage system. A total of 16 soil samples were collected during tank installation activities. All were non-detect for petroleum constituents. Two additional monitoring wells were installed in January 2010.

CURRENT STATUS

The Oil Control Program approved a Bio-Augmentation Pilot Test Work Plan. This Work Plan included the installation of shallow PVC trenches for gravity-fed injections of oxygenated water and bio-augmentation materials. Between April 2008 and June 2013, various bio-augmentation pilot tests were conducted. The Oil Control Program is working with 7-Eleven, Inc. to continue groundwater monitoring both on and off site.

FUTURE UPDATES

- Postings on www.mde.maryland.gov
- File available at the MDE Headquarters

CONTACTS

- Maryland Department of the Environment – Oil Control Program: 410-537-3442
- Harford County Health Department: 410-877-2321 or 410-877-2322
- 7-Eleven, Inc.: 757-361-6739

DISCLAIMER

The intent of this fact sheet is to provide the reader a summary of site events as they are contained within documents available to the Maryland Department of the Environment (MDE). To fully understand the site and surrounding environmental conditions, MDE recommends that the reader review the case file that is available at MDE through the Public Information Act. The inclusion of a person or company's name within this fact sheet is for informational purposes only and should not be considered a conclusion by MDE on liability, involvement in a wrongful act, or contribution to environmental damage.

