



**DISTRICT DEPARTMENT OF THE ENVIRONMENT**  
**Underground Storage Tank Program**  
**Leaking Underground Storage Tank Contaminated Sites**  
**Cleanup Success Story**



**SITE INFORMATION: (July 22, 2011)**

**Site Name:** SHELL 136434  
**Site Address:** 2501 Pennsylvania, SE, Washington DC 20020  
**LUST ID #:** 2001-032  
**Facility ID:** 6-000651  
**Property Owner:** DAG Petroleum, LLC  
**Remediating Party:** Motiva (Equiva Services, LLC)  
**Ward #:** 7  
**Square No.:** 5579, **Lot No.:** 0063, **Size:** 11,214 SF

**SITE DESCRIPTION:**

The site is a Shell Gas Station operated by DAG Petroleum, LLC. It is within a mixed residential-commercial use area in southeast, Washington DC. The gas station had three (3) gasoline fiber-reinforced plastic (FRP) underground storage tanks (USTs) replaced in March 2001. The ground surface is mostly asphalt or concrete. The site slopes northwest towards the Anacostia River located over 1,000 feet from site. The property uses have been as follows:

1. Past Land use/zone: Shell Gas Station / zoned commercial (C-2-A)
2. Present land use: Shell Gas Station / commercial
3. Future use: potentially continue as a gas station / commercial



**Property Lines**



**Aerial Photograph**

## **CONTAMINATION SOURCE & RECEPTORS:**

1. The source of the contamination was a gasoline FRP UST located at the Shell gas station. The release was discovered during a Phase II Site Assessment conducted in December 2000, after a groundwater sample result showed elevated benzene concentrations. The amount of gasoline release is not known. DDOE opened a LUST case in 2001.
2. Sensitive receptors are non-potable groundwater approximately thirteen feet below ground surface, residential homes with basements, located 500 feet down gradient of site (northwest), Anacostia River located 1,320 feet down gradient of site (northwest), and an adjacent strip mall located up-gradient of site (east).

## **ENVIRONMENTAL ASSESSMENTS/INVESTIGATIONS:**

The release was discovered after a Phase I and Phase II Site Assessment were completed for the site by consultants. A UST Closure Report was then submitted in May 2001, after the removal of the three (3) USTs. A Comprehensive Site Assessment (CSA) report was completed in 2002.

## **CLEANUP COMPLETED:**

1. On December 7, 2000, GES installed four (4) monitoring wells on site to conduct a limited phase II site assessment. During installation of monitor wells, a maximum PID reading of 323 ppm was measured in MW3. Groundwater samples collected from the four wells showed elevated benzene and MTBE concentrations, indicating a release from one of the three USTs located at the gas station. The maximum benzene concentration was 3.1 mg/L and a maximum MTBE concentration was 420 mg/L in monitor well (MW) 3. Subsequently, the thirty year old USTs were planned for removal from the ground.
2. On March 28, 2001, DDOE inspected the removal of three fiber-reinforced plastic gasoline USTs: two 10,000 gallon and one 6,000 gallon. GES submitted a UST Closure Report, dated May 21, 2001. During UST removal 956.51 tons of contaminated soil was removed by GES subcontractors and transported to Soil Safe. Approximately 3440 gallons of water was vacuumed out by Franklin Environmental Services, Inc. PID ranged from 59 ppm to 462 ppm in soil during excavation.
3. Additional monitor wells were installed off-site to fully delineate the contamination found in the groundwater. During the routine monitor well gauging and sampling activity, liquid phase hydrocarbon (LPH) was noted in MW #3. All these activities were reported in the May 2002 comprehensive site assessment report.
4. In May 2005, GES applied high intensity targeted remediation on MW #3 to reduce the LPH presence on the groundwater.
5. On March 27, 2007 surfactant was injected in MW #3 by GES followed by a high intensity target remediation of groundwater after three days. High Intensity targeted extraction removed approximately 1,000 gallons of surfactant and water mix.
6. As a result LPH was no longer observed after September 2008 in the extraction well and down gradient wells.
7. URS, as the new consultants since 2010, submitted a District of Columbia's Risk Based Corrective Action (DCRBCA) report dated 7-22-11, requesting closure to this case, since the dissolved phase concentrations in groundwater had decreased to acceptable risk based levels.

**PRESENT SITE CONDITION:**

1. Based on a revised RBCA dated 8-3011 submitted by URS, the case was awarded a ‘No Further Action’ status (Closed).
2. The contamination levels were below the risk based levels for all chemicals of concern except for MTBE concentration, prompting a DCRBCA Level 2A site specific calculation to check if the risk was acceptable when compared to Site Specific Toxicity Level (SSTL) for MTBE. Calculations showed MTBE to be within acceptable SSTL.
3. Site use has not changed, and remains an active Shell gas station.
4. After UST removal, only subsurface remediation activities had taken place at the site.

**PHOTOS:**



Excavation of UST 1



Excavation of Dispenser Area



**Photo: SHELL Gas Station today**

*Please feel free to contact our office at telephone 202-535-2600, fax 202-535-1383 or email [ust.doe@dc.gov](mailto:ust.doe@dc.gov) for additional information.*