

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Environmental Investigation Gilbert Enterprises/Former Smith's Service Center 523 Mount Street, Rising Sun Cecil County, Maryland Case No. 1998-1755-CE

The Maryland Department of the Environment (MDE), Oil Control Program (OCP), continues to evaluate the impact of petroleum constituents at the former Smith's Service Center, located in Rising Sun. The facility no longer has active underground storage tanks (USTs). During its operational history as a service station (circa 1950s), this petroleum retail facility was owned and operated by Gilbert Enterprises Inc. Currently the property is utilized as a commercial business for the sale of storage sheds. Groundwater flow direction is southwesterly. Depth to groundwater is 14 to 20 feet.

In June 1998 five USTs and petroleum impacted soil were removed (four 4,000-gallon gasoline and a 4,000-gallon diesel). Subsequently a geoprobe investigation and three temporary piezometers were installed in 2004. In September 2005, seven monitoring wells were installed on-site, sampling from this network of wells detected petroleum contaminants [benzene at 86 parts per billion (ppb), toluene at 1,100 ppb, methyl tertiary butyl ether (MTBE) – 5,700 ppb; naphthalene at 180 ppb].

Benzene is generally found in petroleum products in combination with three other compounds (toluene, ethylbenzene, and xylene), all components of gasoline. Together, these compounds are referred to as BTEX. The Maximum Contaminant Level (MCL) for benzene is 5 ppb; ethylbenzene is 700 ppb; toluene is 1000 ppb; and xylene is 10,000 ppb. MTBE is a fuel additive commonly used to reduce carbon monoxide and ozone levels caused by auto emissions. There is no national regulatory standard for MTBE in drinking water. In 1997, the U.S. Environmental Protection Agency (EPA) issued an advisory for MTBE of 20 to 40 ppb, based on taste and odor. Although the EPA has not established a regulated Maximum Contaminant Level (MCL) for MTBE, the MDE has adopted an action level of 20 ppb. Naphthalene is also a petroleum based compound with a State's action level of 10 ppb.

Sampling of the on-site drinking water supply well in September 2005 and 2007, was non-detect for petroleum constituents. Two (2) off-site supply wells were also sampled, and determined to be non-detect for petroleum constituents. At this time, the MDE-OCP does not anticipate expanding the sampling effort beyond sampling needed to ensure community safety.

Chronology

- March 6, 1998. MDE site visit upon observing out-of-service USTs.
- June 23-25, 1998. MDE on-site for UST removal activities (four 4,000-gallon gasoline and a 4,000-gallon diesel).
 - Petroleum-impacted soils were also removed;
 - No perforations observed in tanks or piping;
 - A subsurface investigation was required.
- July 9, 1998. MDE on-site to observe a geoprobe subsurface investigation.
- July 23, 1998. MDE received *Report of Soil Sampling*.
 - Eight borings installed 07/09/98 Soil samples below regulatory cleanup levels.
- October 30, 2001. MDE identified a drinking water supply well on-site.
- February 24, 2004. MDE issued *Notice of Violation NV-2004-052* to Gilbert Enterprises, Inc. due to the presence of petroleum contamination on-site and required a hydrogeological study to define the extent of subsurface contamination on-site.

- April 29, 2004. MDE on-site to observe the installation of three (3) temporary piezometers for groundwater sampling.
- August 4, 2004. MDE received *Report of Piezometer Installation and Sampling – August 3, 2004*.
 - Groundwater flow southwesterly
 - May 2005 sampling event of the three temporary piezometers.
 - P1 (depth to water 9.3 ft) Benzene - 17.7 ppb, MTBE –17.6 ppb
 - P2 (depth to water 17.1 ft) MTBE – 95.9 ppb; naphthalene – 47.6 ppb
 - P3 (depth to water 14.33 ft) Naphthalene – 323 ppb
- September 15, 2004. MDE directive letter to Gilbert Enterprises, Inc. requiring the submittal of a *Work Plan* to delineate the extent of subsurface contamination.
- January 10, 2005. MDE received *Subsurface Investigation Work Plan – January 7, 2005*, proposing:
 - A ¼ mile well survey;
 - Off-site drinking water well sampling;
 - Six (6) geoprobe locations proposed.
- March 11, 2005. MDE letter to Gilbert Enterprises, Inc. requiring:
 - A more comprehensive subsurface investigation *Work Plan*;
 - Submit notification letter to property owners prior to off-site sampling.
- May 2, 2005. MDE received *Revised Subsurface Investigation Work Plan*, proposing:
 - A ¼ mile well survey;
 - Sampling of the on-site supply well and select off-site private wells;
 - Installation and sampling of seven (7) monitoring wells.
- June 8, 2005. MDE letter approving the *Work Plan* with modifications, including the approval of temporary 1.5-inch pre-packed wells.
- November 4, 2005. MDE received *Phase II Subsurface Investigation Report – October 13, 2005*.
 - Soil samples below regulatory levels
 - Seven monitoring wells (MW1/B1 – MW7/B7) installed 09/15-16/05 (See Table for results)
 - PW (on-site supply well) ND
 - 32 North Hill (off-site supply well) ND
 - 10 North Hill (off-site supply well) ND
 - No drinking water supply wells immediately downgradient of the site (southwest).
 - Recommendation of two semi-annual sampling events.
- October 25, 2005. MDE site visit to determine the status of the monitoring wells. No wells could be located.
- July 17, 2006. MDE received a request from the consultant as to the Department’s comments on the *Phase II Report*.
- March 28, 2007. MDE site visit to verify presence of installed monitoring wells.
 - Several monitoring wells were identified on-site (MW2 and MW3)
- May 1, 2007. MDE directive letter to Gilbert Enterprises, requiring the following:
 - Quarterly sampling of the on-site monitoring wells for four quarters (one year);
 - Quarterly sampling of the on-site drinking water supply well;
 - One round of sampling from five (5) select off-site drinking water supply wells. A draft *Water Well Sampling Access Letter* must be submitted to the Department for approval prior to sampling.
- September 28, 2007. MDE received *Former Smith’s Service Center – September 24, 2007*.
 - 09/07/07 sampling event (*see Table*).
- January 3, 2008. MDE directive letter to Gilbert Enterprises, Inc., requiring the submittal of an Interim Corrective Action Plan and quarterly sampling of monitoring wells and on-site drinking water supply well.

- January 10, 2008. MDE received *Groundwater Sampling – January 8, 2008*.
 - 12/19-20/07 sampling events (*see Table*).
 - LPH in MW-3 at 0.01 ft.
- January 23, 2008. MDE-OCP received *Interim Corrective Action Plan – January 23, 2008*, proposing the installation of subsurface borings in the area of MW-3 to delineate soils for excavation.
- January 25, 2008. MDE-OCP email response to consultant, requiring submittal of:
 - A formal *Work Plan*, delineating number and location of planned soil borings;
 - Proper abandonment of MW-3 if the well location was to be in the area of soil excavation, followed by re-drilling of the well in a location approved by the Department; and
 - Continued quarterly sampling and gauging of the monitoring wells.
- February 27, 2008. MDE-OCP received *Corrective Action Plan – February 21, 2008*, detailing the 01/28/08 geoprobe subsurface investigation event:
 - Six borings installed, and eleven (11) soil samples collected;
 - Soil analysis detected TPH/DRO up to 1,400 ppm and TPH/GRO up to 30,000 ppm;
 - Proposed area of soil excavation was delineated around MW-3.
- March 12, 2008. MDE-OCP received the draft *Water Well Access Sampling Letter* for off-site sampling.
- March 19, 2008. MDE-OCP approved the *Water Well Access Sampling Letter*.
- April 2, 2008. MDE-OCP directive letter to Gilbert Enterprises, approving the *Corrective Action Plan* contingent upon the following:
 - Widen the excavation are;
 - MW-3 must be properly abandoned prior to excavation;
 - Collect a minimum of seven (7) post-excavation soil samples
 - Two quarters of post-excavation groundwater monitoring events.

Future Updates:

- Future updates on this case investigation will be posted at www.mde.state.md.us [at the MDE home page, (select) Land, (select) Program, (select) Oil Control, (select) Remediation Sites].

Contacts

- Maryland Department of the Environment (MDE) Oil Control Program: 410-537-3443
- Cecil County Health Department (CCHD) 410-996-5160

Other Related Cases:

- Smith’s Chevron – 523 Mount Street, MDE Case No. 87-0494CE (*closed*)

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 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 guilt, involvement in a wrongful act or contribution to environmental damage.

**Groundwater Sampling Data in the vicinity of Former Smith Service Center located at 523 Mount Street
in Rising Sun, Cecil County**

Groundwater Sampling Data	Sampling Event	Benzene MCL at 5 ppb	MTBE State's Action Level at 20 ppb	Other Petroleum constituents Naphthalene – Action Level 10 ppb Toluene – MCL at 1000 ppb
MW1 CE-95-1039 2 in. diameter well; Borehole depth 31.5 ft. Screen depth 9 to 29 ft; Casing depth 0-9 ft.	09/2005	86	7000	Naphthalene - 18 ppb
	9/7/07	ND	1,100	---
	12/19/07	5	34	---
MW2 CE-95-1041 2 in. diameter well ; Borehole depth 30 ft. Screen depth 8 to 28 ft; Casing depth 0-8 ft.	09/2005	ND	ND	ND
	9/7/07	ND	2	---
	12/29/07	ND	ND	---
MW3 CE-95-1040 2 in. diameter well ; Borehole depth 28 ft. Screen depth 7 to 27 ft ; Casing depth 0-7 ft.	09/2005	1500	5700	Naphthalene - 180 ppb Toluene -1100 ppb
	9/7/07	0.01 ft LPH	0.01 ft LPH	0.01 ft LPH
	12/19/07	0.01 ft LPH	0.01 ft LPH	0.01 ft LPH
MW4 CE-95-1043 2 in. diameter well; Borehole depth 31 ft. Screen depth 8 to 28 ft ; Casing depth 0-8 ft.	09/2005	ND	1	---
	9/7/07	ND	ND	---
	12/19/07	1	ND	---
MW5 CE-95-1038 2 in. diameter well ; Borehole depth 28 ft. Screen depth 5 to 25 ft ; Casing depth 0-5 ft.	09/2005	18	87	---
	9/7/07	ND	ND	---
	12/19/07	ND	ND	---
MW6 CE-95-1042 2 in. diameter well ; Borehole depth 23 ft. Screen depth 5 to 22 ft; Casing depth 0-5 ft.	09/2005	7	15	---
	9/7/07	ND	ND	---
	12/20/07	ND	ND	ND
MW7 CE-95-1044 2 in. diameter well; Borehole depth 25 ft. Screen depth 4 to 224 ft ; Casing depth 0-4 ft.	09/2005	12	41	---
	9/7/07	ND	ND	---
	12/19/07	ND	ND	ND
Transient Non-community Supply Well				
523 Mount Street (Gilbert Enterprises/Former Smith's Service Center)	09/2005	ND	ND	ND
	9/7/07	ND	ND	ND
	12/19/07	ND	ND	ND
Off-site Drinking Water Supply Wells				
10 North Hills Drive	09/2005	ND	ND	ND
22 North Hills Drive	9/7/07	ND	ND	ND
32 North Hills Drive	09/2005	ND	ND	ND
	9/7/07	ND	ND	ND