

FACT SHEET FOR THE CHILLUM/RIGGS PARK COMMUNITY
Comparison of Indoor Air Levels Used by the U.S. Environmental Protection Agency (EPA) Region 3; U.S. Agency for Toxic Substances and Disease Registry (ATSDR); and the District of Columbia (the District)

INTRODUCTION:

The purpose of this factsheet is to provide community members at the Chillum/Riggs Park site in Washington, DC with more information on the different “comparison levels” being used to evaluate and make decisions about levels of indoor air contaminants found at this site. Table 1 summarizes the different levels by contaminant and by agency for the gasoline constituents of concern at this site. This table includes the action levels being used by EPA Region 3 as *cleanup levels* at this site. This table also shows the *screening levels* that EPA, ATSDR, and the District of Columbia (“District”) historically used or are using to determine the need for, and extent of, cleanup at this site, and on the health agency side to evaluate the potential for health effects in the community. The District has not yet selected an action level or levels (or *cleanup levels*) for this site, but anticipates that it will evaluate chemicals in addition to those identified in Table 1; may evaluate the cumulative risk posed by exposure to multiple chemicals; and because it is evaluating cumulative risk, may not use screening levels when making cleanup decisions. Definitions to help understand this information follow Table 1. Table 2 summarizes the different agencies’ roles, responsibilities and contact information for this site.

Table 1. Comparison of Cleanup and Screening Levels by Chemical and Entity for the Chillum/Riggs Park Site in Washington, DC

	Cleanup Levels ¹	Screening Levels ²			
	ug/m3	ug/m3			
	EPA	EPA ³	ATSDR Acute/Intermediate ⁴	ATSDR Chronic ⁵	District ⁶
Benzene	8	0.23 to 23	30/20	10 (0.1 CREG)	.8
Toluene	5,000	5,000	4,000/not available	300	1500
Ethylbenzene	1,000	1,000	40,000/4,000	1,000	3800
Xylenes	100	100	9,000/3,000	200	390
MTBE	17	1.6 to 160	7,000/2,000	2,000	160

EXPLANATION OF THE TABLE:

- Cleanup Levels** refer to the concentrations of a chemical that a regulatory agency has set to take a response action at a particular site. *Cleanup levels* are established by the regulatory agency on a site-specific basis to identify the cleanup goal at a particular site and to determine the level at which remediation is triggered. It is important to note that the environmental agencies at this site (EPA and the District’s) have not established national/District-wide non-site specific cleanup “standards” for gasoline plume constituents in indoor air or soil vapor.
- Screening Levels.** Think about these numbers as a place to start. These numbers change over time as new science becomes available. Other names for screening values are “health based comparison values,” “comparison values,” “risk based concentrations,” or “guidance values.” These are numbers that help agencies start evaluating environmental sampling data. These numbers are not health effect levels, nor are they cleanup levels, or action levels. They are meant to be default numbers that let you “screen out” a problem from further consideration. This means you can have a sampling result that exceeds a screening value and a public health agency can still make the determination that the concentration is not high enough to actually make a person sick based on the results of the comprehensive public health review of the site-specific information. These levels are generally used to eliminate homes that do not pose significant health threats. That is, homes with levels lower than screening levels are eliminated from further evaluation or study while homes with concentrations higher than screening levels require additional evaluation.
- EPA screening levels at this site are based on 2007 EPA Region 3 Risk Based Concentrations (RBC) table.
- ATSDR Acute and Intermediate Comparison Values in this table are based on ATSDR’s 2008 screening values, with the exception of the intermediate value for ethylbenzene, which is based on the ATSDR’s 2007 screening value to be consistent with the May 2007 ATSDR Record of Activity Health Consultation evaluating the public health protectiveness of EPA’s proposed cleanup levels. ATSDR refers to these values as Minimal Risk Levels or MRLs. ATSDR acute values screen for non-cancer health effects for exposures lasting 14 days or less. Intermediate values are for screening for non-cancer health effects for exposures from 14 days to one year.
- ATSDR Chronic Comparison Values in this table are based on ATSDR’s 2008 screening values. ATSDR refers to these values as Minimal Risk Levels or MRLs. ATSDR chronic values are for screening for non-cancer health effects for exposures lasting from one year or longer. For the chemical ATSDR evaluates as a human carcinogen in the table (benzene), ATSDR also included the Cancer Risk Evaluation Guideline (CREG) as the lower end of this

screening range. The CREG uses the EPA Cancer Slope Factor to estimate the concentration to produce a lifetime risk of one additional cancer in a million people.

6. The District’s screening levels were set forth in a 2005 Memorandum prepared by the Department of Health, Environmental Health Administration, titled “Target Indoor Air Action Levels.” The District may adjust its screening levels over time as science evolves.

BENZENE

EPA’s *clean-up value* for BENZENE was selected based on site-specific background indoor air concentration at a 95 percent confidence interval. The data for the background calculation were based on indoor air data collected by the District from homes outside the plume at Riggs Park in 2006. The selected value is within the acceptable cancer risk range of one-in-ten thousand to one-in-one million in accordance with the National Contingency Plan* remedy selection criteria. EPA’s *screening level* is based on a cancer risk range of one-in-ten thousand to one-in-one million. The concentration 0.23 ug/m³ = a lifetime risk of one cancer per one million people; and 23 ug/m³ = a lifetime risk of one cancer per ten thousand people. The District’s *screening level* for benzene, identified in the District’s 2005 Memorandum (see supra, n. 6), is also set forth in Appendix G of the District’s 2002 Risk Based Correction Action Plan Guidelines, which in turn is based on the 2000 EPA Region 3 RBC table.

TOLUENE, ETHYLBENZENE, and XYLENES

EPA’s *clean-up values* for TOLUENE, ETHYLBENZENE and XYLENE were selected based on the EPA reference concentration (RfC). The RfC is an estimate of a daily inhalation exposure of the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. The District’s toluene, ethylbenzene and xylene levels were set forth in the District’s 2005 Memorandum (see footnote number 6 above). ATSDR has acute and chronic exposure duration non-cancer *screening levels* for toluene, and has acute, intermediate, and chronic exposure duration non-cancer *screening levels* for ethylbenzene, and xylenes.

MTBE (Methyl tert-Butyl Ether)

EPA’s *clean-up value* for MTBE was selected based on site-specific background indoor air concentration at a 95 percent confidence interval. The data for the background calculation were based on indoor air data collected by the District from homes outside the plume at Riggs Park in 2006. The selected value is within the acceptable cancer risk range of one-in-ten thousand to one-in-one million in accordance with the National Contingency Plan* remedy selection criteria. EPA’s *screening level* is based on a cancer risk range of one-in-ten thousand to one-in-one million. A concentration of 1.6 ug/m³ = a lifetime risk of one cancer per one million people; and 160 ug/m³ = a lifetime risk of one cancer in ten thousand people. The District’s MTBE level was set forth in the District’s 2005 Memorandum (see supra, n. 6). ATSDR evaluates MTBE for non-cancer effects using acute, intermediate, and chronic exposure duration non-cancer *screening levels*.

**The National Contingency Plan (NCP) is the federal government's blueprint for responding to both oil spills and hazardous substance releases. The NCP is the result of our country's efforts to develop a national response capability and promote overall coordination among the hierarchy of responders and contingency plans.*

Table 2. Agency Roles, Responsibilities and Contact Information for the Chillum/Riggs Park Site, Washington DC

Agency name	Agency site role	Agency contact
Agency for Toxic Substances and Disease Registry (ATSDR)	Federal advisory agency on public health. ATSDR is not a regulatory agency and does not develop or set regulatory standards. ATSDR provides public health advice and technical assistance to other agencies and the community at this site.	Lora Werner, 215-814-3141, lkw9@cdc.gov
District Department of the Environment (DDOE)	Local environmental regulatory agency, previously part of the DC DOH. Conducting independent community environmental sampling at the site. Has regulatory authority over environmental contamination concerns in the District, but has not yet initiated enforcement action at this site at this time.	Sharon Cooke, 202-673-6738, Sharon.Cooke@dc.gov
District Department of Health (DOH)	Local public health agency (regulatory and advisory authorities). Previously conducted independent community environmental sampling at this site, now being conducted by DDOE. Among other public health responsibilities, administers District’s cancer registry and asthma education programs.	Ron King, 202-698-4170, Ronald.King3@dc.gov
Environmental Protection Agency (EPA)	Federal environmental regulatory agency with enforcement authority over Chevron. Waste Management and Chemicals Division oversees order with Chevron, including characterization of gasoline contamination and establishment of action and cleanup levels for gasoline chemicals.	Andrew Fan, 215-814-3426 fan.andrew@epa.gov