Lead Scavengers Compendium: Overview of Properties, Occurrence, and Remedial Technologies

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Acronyms and Abbreviations

µg/L	Microgram per liter
1,2-DCA	1,2-Dichloroethane
ACIGH	American Conference of Governmental Industrial Hygienists
AEHS	Association for Environmental Health and Sciences
AS	Air sparging
ASR	Treatment Technologies for Site Cleanup: Annual Status Report, 11th Edition
ASTSWMO	Association of State and Territorial Solid Waste Management Officials
ATSDR	Agency of Toxic Substances and Disease Registry
Avgas	Aviation gas
BEI	Biological Exposure Indices
BHC	Hexachlorocyclohexane
BTEX	Benzene, toluene, ethylbenzene, xylene
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
DDT	Dichlorodiphenyl-trichloroethane
DHHS	Department of Health and Human Services
DNA	Deoxyribose nucleic acid
EDB	Ethylene dibromide
EDC	Ethylene dichloride
EPA	United States Environmental Protection Agency
FRTR	Federal Remediation Technologies Roundtable
g/mol	Gram per mole
GAC	Granular activated carbon
H_2S	Hydrogen sulfide
HS^-	Bisulfide ion
HW	Hazardous waste
IARC	International Agency for Research on Cancer
IRIS	Integrated Risk Information System
KDHE	Kansas Department of Health and Environment
Koc	Soil organic carbon/water partition coefficient
Kow	Octanol-water partition coefficient
LNAPL	Light non-aqueous phase liquid
LUST	Leaking underground storage tank
MCL	Maximum contaminant level
mg/kg	Milligram per kilogram
mg/m^3	Milligram per cubic meter
mg/L	Milligram per liter
mM	Millimole
mm Hg	Millimeter of mercury
MMR	Massachusetts Military Reservation
MNA	Monitored natural attenuation
MSDS	Material safety data sheet
MTBE	Methyl tert-butyl ether

ND	Nondetect
NIOSH	National Institute of Occupational Safety and Health
NLM	National Library of Medicines
NPL	National Priorities List
O&M	Operation and maintenance
OPP	Office of Pesticide Programs
OSHA	Occupational Safety and Health Administration
OU	Operable unit
OUST	Office of Underground Storage Tanks
P&T	Pump and treat
PEL	Permissible exposure limit
POL	Petroleum, oil, and lubricant
ppb	Parts per billion
ppm	Parts per million
PR	Product recovery
PTA	Packed tower aeration
PWS	Public water system
RCRA	Resource Conservation and Recovery Act
RfC	Reference Concentration
RfD	Reference Dose
ROD	Record of Decision
RPAR	Rebuttable Presumption Against Registration
SCDHEC	South Carolina Department of Health and Environmental Control
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SGOT	Glutamic oxaloacetic transaminase
SGPT	Glutamic pyruvic transaminase
SVE	Soil vapor extraction
TCE	Trichloroethene
TEL	Tetraethyl lead
TLV	Threshold Limit Value
TML	Tetramethyl lead
URCIS	Unregulated Contaminant Information System
USGS	United States Geological Survey
UST	Underground storage tank
UV	Ultraviolet
VOC	Volatile organic compound
WQFS	West Quartermaster's Fueling System

Purpose

This compendium of materials about lead scavengers – in particular ethylene dibromide (EDB) and 1,2-dichloroethane (1,2-DCA, also known as ethylene dichloride or EDC) represents EPA's current state of knowledge (through 2005) on lead scavengers.

The compendium is the first of three phases of work EPA, along with state and regional UST programs, are undertaking to determine the scope and magnitude of lead scavengers at leaking UST sites nationwide. The two phases still to be conducted include:

- Collecting additional data to fill in information gaps identified during the first phase, and
- Developing an appropriate response based on the results of the first two phases.

With the phase out of leaded gasoline at the end of the 1980s, experts believed that alkyl lead compounds and associated lead scavengers from leaking UST systems would no longer occur in the environment. However, results published in summer 2004 of an investigation of leaking UST sites in South Carolina revealed that lead scavengers may persist for long periods of time in certain groundwater environments and, thus, may still be present at UST sites in operation through the end of the 1980s. Consequently, EPA and states are continuing their investigation into the potential presence of lead scavengers at UST sites.

Please note that the information in this compendium is based on data presented in source materials discussed in section 1. Also note that mention of trade names or commercial products does not constitute endorsements or recommendations for their use.

EXECUTIVE SUMMARY

Introduction

Ethylene dibromide (EDB) and ethylene dichloride (EDC; also known as 1,2-dichloroethane or 1,2-DCA) are synthetic organic chemicals used in leaded gasoline as "lead scavengers" to prevent the buildup of lead deposits that foul internal combustion engines. Even though leaded gasoline for on-road automobiles has not been used for more than a decade, leaded gasoline containing lead scavengers is still used as aviation gasoline (Avgas) and in some off-road applications such as automobile racing fuel.

Current Investigation

To determine whether lead scavengers pose a potential threat to human health or the environment, the U.S. Environmental Protection Agency's (EPA) Office of Underground Storage Tanks (OUST) teamed with the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) to investigate the occurrence of lead scavengers in the environment. As a first step, readily available information was gathered from EPA Headquarters and the regions, various states, and the scientific literature to identify the properties and occurrence of lead scavenger compounds as well as remedial technologies for these compounds. This compendium represents the state of knowledge through mid-2005 of lead scavengers and their occurrence at LUST sites.

Historical Uses of Lead Scavengers

The use of EDB as a lead scavenger began in 1925. Beginning in the 1940s, EDB was partially replaced with EDC as a cost saving measure. In 1973, EPA initiated a "phasedown" program for leaded gasoline to reduce lead content from 2.0 grams per gallon to 0.5 gram per gallon in large refineries by 1980 and in small refineries by 1982. In 1982, EPA lowered the standard for lead in fuel to 1.10 grams per gallon and eliminated the provision that allowed refineries to average their total leaded and unleaded gasoline output to meet the standard. In 1986, the standard was further reduced to 0.10 gram per gallon. In 1996 on-road uses of leaded gasoline were banned entirely. However, leaded gasoline (that also contains lead scavengers) is still used in some off-road applications such as aviation gasoline (Avgas) and automobile racing fuel.

Other Uses of Lead Scavengers

Lead scavenger compounds have other uses besides leaded fuel additives. EDB was widely used in agricultural applications as a pesticide and fumigant. EDC was used as a fumigant, in varnish and finish removers, in soaps and scouring compounds, in organic synthesis for extraction and cleaning purposes, in metal degreasers, in ore floatation, and in paints, coatings and adhesives. EDB is also used as a chemical intermediate in synthesis and as a nonflammable solvent for resins, gums, and waxes. EDC is now primarily used to manufacture vinyl chloride. The last registered garment fumigant containing EDB and EDC was Tri-X-Garment Fumigant. Production of this fumigant was cancelled on September 8, 1993.

Environmental Transport and Fate of Lead Scavengers

Once released into the environment, the transport and fate of EDB and EDC in soil and groundwater is dependent on physical, chemical and microbiological processes. EDB and EDC can be expected to exhibit low to moderate adsorption to particulates in groundwater and show high mobility in groundwater. EDB readily undergoes aerobic biodegradation in surface soil, with the fastest degradation occurring at or near the soil surface. EDB is moderately persistent deeper in the soil, and a representative half-life has been estimated to be 100 days. Sorbed EDB slowly leaches from micropore sites to contaminate groundwater. Biodegradation of EDB in groundwater occurs aerobically with a half-life of 35 to 360 days and anaerobically with a half-life of 15 to 50 days. EDC is biodegraded in soil, and a representative half-life value of 52 days has been reported. Biodegradation of EDC in groundwater occurs aerobically with a half-life of 100 days and anaerobically with a half-life of 400 days.

Toxicology of Lead Scavengers

Based on the effects of EDC on the human central nervous system, lungs, and liver as well as on the cancer risk posed by the compound, EPA promulgated a maximum contaminant level (MCL) of 5 micrograms per liter (µg/L) in water for EDC in 1989. Based on the effects of EDB on the human stomach, adrenal glands, reproductive system, respiratory system, nervous system, liver, heart, and kidneys as well as on the cancer risk posed by the compound, EPA promulgated a MCL of 0.05 µg/L in water for EDB in 1992. EPA has determined that both EDB and EDC are probable human carcinogens. The U.S. Department of Health and Human Services has determined that both EDB and EDC may reasonably be expected to cause cancer. The International Agency for Research on Cancer considers EDC to be a possible human carcinogen.

Occurrence of Lead Scavengers in Drinking Water

As a preliminary step in evaluating the prevalence of EDB and EDC in drinking water, EPA reviewed several documents and databases for relevant information. According to the three EPA reports reviewed, EDB and EDC have been detected above the MCL in groundwater-supplied public water systems (PWS) across the country. One report, "Occurrence of Unregulated Contaminants in Public Water Systems – A National Summary," indicates that 12 PWSs out of 22,000 groundwater-supplied PWSs in 24 states had EDB concentrations above the federal MCL (0.05 µg/L), while 24 PWSs had EDC concentrations above its federal MCL (5 µg/L). The report also notes that the data suggest widespread occurrence of EDB with no apparent geographic pattern across the country.

Two other EPA reports ("A Review of Contaminant Occurrence in Public Water Systems" and "Occurrence Estimation Methodology and Occurrence Findings Report for the Six-Year Review of Existing National Primary Drinking Water Regulations") evaluate an eight-state subset for EDB and EDC occurrence. One report concludes that EDB is consistently ranked as among the most commonly occurring synthetic organic chemicals although their occurrence is relatively infrequent: EDB and EDC were reported above their MCLs by only 0.7% and 0.3% of the groundwater-supplied PWSs, respectively.

According to EPA's Safe Drinking Water Information System database, 62 MCL violations for EDB and 32 MCL violations for EDC were reported for 40 and 17 groundwater-supplied PWSs, respectively (from 1993 to 2004). Florida's Drinking Water Database indicated groundwater-

supplied drinking water systems in Florida had EDB concentrations ranging from 3.8 to 272 µg/L and EDC concentrations ranging from 0.1 to 0.5 µg/L.

Presence of Lead Scavengers at Leaking Underground Storage Tank (LUST) Sites

The Association for Environmental Health and Sciences (AEHS) conducts a bi-annual survey of states' cleanup standards for hydrocarbon-contaminated soil and groundwater and these results are posted on their web site (*http://aehs.com/surveys.htm*). These data indicate that few states require sampling for EDB at LUST sites. Representatives of the Kansas Department of Health and Environment, the South Carolina Department of Health and Environmental Control, and Santa Barbara County in California provided information about the occurrence of EDB and EDC at LUST sites in their areas. Additional data for South Carolina were also obtained from Dr. Ronald Falta of Clemson University. Based on the limited data collected for South Carolina and Santa Barbara County (California), there seems to be no relationship between EDB, EDC, benzene, methyl tert-butyl ether (MTBE), and lead concentrations at these sites. Also, EPA Region 8 provided data from a few Federal-lead sites in Indian Country.

Remediation and Treatment Technologies for Lead Scavengers

Remediation and treatment technologies for EDB and EDC contaminants were evaluated using available data. According to EPA's Annual Status Report (ASR) for Superfund sites and site-specific data from the State of Kansas, the most common treatment technologies for EDB are air sparging, soil vapor extraction, and groundwater pump and treat with granular activated carbon. Four Superfund sites are treating or have treated soil or groundwater contaminated with EDB, and seventy Superfund sites have addressed EDC contamination. Three additional sites have identified EDB as a contaminant of concern. Thirty-one sites in South Carolina are using monitored natural attenuation to address EDB and other contaminants. Information obtained from ASR database indicates that 70 Superfund sites are treating or have treated soil or groundwater contaminated with EDC. The most common treatment technology for EDC is pump and treat, although the treatment was not specified in the ASR database.

Summary

Lead scavengers (and in particular EDB) appear to be persistent in some subsurface environments associated with releases of leaded fuel from leaking USTs. The magnitude of the potential problem, however, is as yet unknown but the subject of an ongoing investigation by EPA. Although EDB is acknowledged to be one of the common contaminants found in public drinking water supplies, it is present in very few systems and typically at very low concentrations. There is very little information on the occurrence of lead scavengers in domestic (private) wells and on the effectiveness of remediation and treatment technologies.

1.0 INTRODUCTION

1.1 Background

Ethylene dibromide (EDB) and ethylene dichloride (EDC; also known as 1,2-dichloroethane or 1,2-DCA) are synthetic organic chemicals used in leaded gasoline to prevent the buildup of lead deposits that foul internal combustion engines. In this capacity, EDB and EDC are referred to as "lead scavengers". EDB has been used as a pesticide and fumigant. EDB is now used as a chemical intermediate in synthesis and as a nonflammable solvent for resins, gums, and waxes.

In addition to its use as a lead scavenger EDC was used as a fumigant, in varnish and finish removers, in soaps and scouring compounds, in organic synthesis for extraction and cleaning purposes, in metal degreasers, in ore floatation, and in paints, coatings and adhesives. EDC is now primarily used to manufacture vinyl chloride.

Even though leaded gasoline has not been used for on-road automobiles for more than a decade, leaded gasoline (which also contains lead scavengers) is still in use in aviation gasoline (avgas) and in some off-road applications such as racing fuel. Material Safety Data Sheets (MSDS) obtained for leaded automobile racing fuel do not indicate the composition (i.e., whether they contain EDB or EDC and at what concentrations) of the lead scavenger package that these fuels contain.

In 1989, EPA promulgated a maximum contaminant level (MCL) of 5 micrograms per liter (µg/L) for EDC in water. This MCL is based on EDC's effects on the human central nervous system, lungs, and liver as well as on the cancer risk posed by the compound. The MCL for EDB, which was promulgated in 1992, is 0.05 µg/L in water. This MCL is based on EDB's effects on the human stomach, adrenal glands, reproductive system, respiratory system, nervous system, liver, heart, and kidneys as well as on the cancer risk posed by the compound.

Some recent work indicates that these compounds persist in some groundwater environments associated with leaking underground storage tanks (USTs) and may potentially affect drinking water systems. In summer 2004, Ronald Falta, a Professor at Clemson University in South Carolina, published "The Potential for Ground Water Contamination by the Gasoline Scavengers Ethylene Dibromide and 1,2-Dichloroethane" in *Ground Water Monitoring and Remediation* (Volume 24, Number 3, pages 76 through 87). In his paper, Dr. Falta discusses the history of leaded gasoline additives, reviews the occurrence of EDB and EDC in drinking water, discusses state regulations and analytical methods, addresses fate and transport, and reviews selected field evidence of EDB's persistence and mobility. He concludes that, due to a general lack of attention given to lead scavengers at leaking underground storage tanks (LUST) sites, "[i]t would seem prudent to initiate a research program to establish the magnitude and extent of ground water contamination by these lead scavengers…."

1.2 Current Investigation

To determine whether these compounds pose a potential threat to human health or the environment, the U.S. Environmental Protection Agency's (EPA) Office of Underground

Storage Tanks (OUST) teamed with the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) to investigate the occurrence of lead scavengers in the environment. The investigation is proceeding in three phases:

- Phase 1: Define what is known about the potential magnitude of the problem
- Phase 2: Address gaps in knowledge identified in Phase 1
- Phase 3: Formulate an appropriate response

Information collected during Phase 1 has been assembled into this compendium, which represents the current state of knowledge of lead scavengers and their occurrence at LUST sites. The remaining sections of this compendium are:

- Historical Uses (Section 2)
- Physical and Chemical Properties and Analytical Methods (Section 3)
- Environmental Transport and Fate (Section 4)
- Toxicology (Section 5)
- Occurrence in Drinking Water (Section 6)
- Presence at LUST Sites (Section 7)
- Remediation and Treatment Technologies (Section 8)

1.3 Information Sources

EPA has examined readily available information from EPA Headquarters and the regions, various states, and the scientific literature to identify the properties and occurrence of EDB and EDC as well as remedial technologies for these compounds.

The following EPA Headquarters offices were contacted during the preparation of this report:

- Office of Water
- Office of Pesticide Programs
- National Center for Environmental Assessment
- National Exposure Research Laboratory
- Robert S. Kerr Environmental Research Center, Subsurface Protection and Remediation Division

Several states were found to have readily accessible data on EDB and EDC. Representatives of the Kansas Department of Health and Environment, the South Carolina Department of Health and Environmental Control, and Santa Barbara County in California were contacted to obtain additional information about the occurrence of EDB and EDC in their areas. Additional data for selected sites in EPA Region 8 and in South Carolina were also obtained.

To identify relevant scientific literature, EPA performed an online search of the National Ground Water Association database of journal articles as well as a search of selected Internet sites.

2.0 HISTORICAL USES

PRINCIPAL FINDINGS

- Lead scavengers have been used in leaded gasoline since the 1920s.
- EDB was used as an agricultural pesticide from 1948 until 1993.
- Although leaded gasoline has been banned in on-road vehicles since 1996, it is still used in certain off-road applications such as aviation gasoline (Avgas) and automobile racing fuel and both of these fuels also contain lead scavengers.

Lead scavengers are compounds added to leaded gasoline to prevent buildup of lead deposits that foul internal combustion engines. In this capacity, EDB and EDC are referred to as "lead scavengers". Even though leaded gasoline has not been used for on-road automobiles for more than a decade, lead compounds (and, therefore, lead scavengers) are still in use in aviation gasoline (Avgas) and in some off-road applications such as racing fuel.

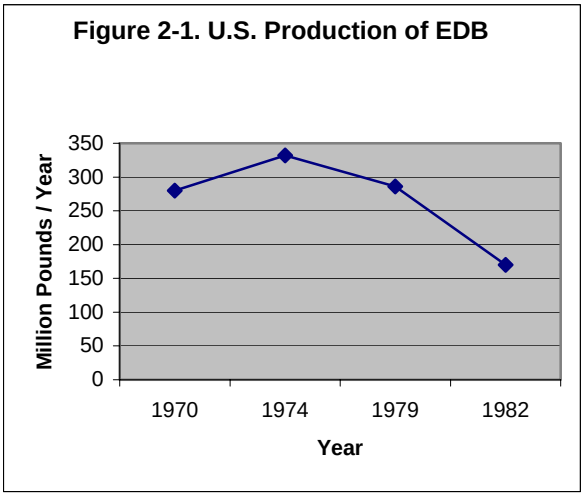
In addition, EDB was used as a pesticide and fumigant. EDC was used as a fumigant, in varnish and finish removers, in soaps and scouring compounds, in organic synthesis for extraction and cleaning purposes, in metal degreasers, in ore floatation, and in paints, coatings and adhesives. EDB is also used as a chemical intermediate in synthesis and as a nonflammable solvent for resins, gums, and waxes. EDC is now primarily used to manufacture vinyl chloride. This section summarizes the historical uses and consumption patterns of EDB and EDC as well as the phaseout of EDB. The historical production and consumption patterns were obtained from the Hazardous Substance Databank, a database of the National Library of Medicine's TOXNET system (http://toxnet.nlm.nih.gov).

2.1 HISTORICAL PRODUCTION OF EDB AND EDC

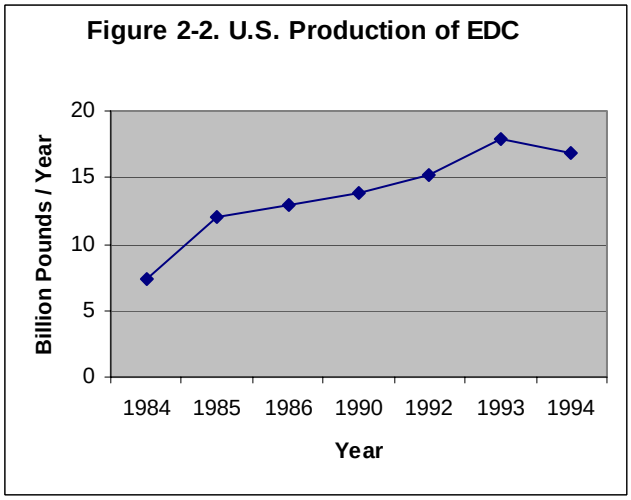
In the 1970s, production of EDB in the United States averaged 280 million pounds per year. The production volume of EDB in 1974 was 332 million pounds, and in 1979, the production volume was 285.9 million pounds. With increased government regulation and restriction of the use of EDB, production steadily decreased. By 1982, U.S. production of EDB reached a low of 169.8 million pounds (see Figure 2-1). Data on the production of EDB after 1982 are not available. The production volumes of EDC in the United States are presented in Figure 2-2.

2.2 USE OF EDB AND EDC AS LEAD SCAVENGERS

Premature ignition (knocking) in gasoline engines encouraged the development of lead antiknock agents. However, the use of lead antiknock agents in gasoline caused engine fouling because lead deposits formed within the combustion chamber. These deposits could flake off and prevent valves from being fully seated, which causes them to burn. To overcome the problem of engine fouling, lead scavengers were added to all leaded gasolines. Commercial sale of leaded gasoline



Note: Not to scale
Source: Ref. 2-4



Note: Not to scale
Source: Ref. 2-5

containing triethylbromide and carbon tetrachloride as lead scavengers began in 1923. Later carbon tetrachloride was replaced by trichloroethene. The use of EDB as a lead scavenger began in 1925. Beginning in the 1940s, EDB was partially replaced with EDC as a cost saving measure (Ref. 2-7). In 1981, 83 percent of the EDB produced was used for lead scavengers (Ref. 2-4). The most commonly used lead antiknock packages contain either tetraethyl lead (TEL) or tetramethyl lead (TML), both of which contained EDB and EDC. The compositions of TEL and TML are presented in Table 2-1 (Ref. 2-6).

Table 2-1: Composition of Lead Antiknock Packages

Compound	Composition (wt%)	
	TEL Package	TML Package
Lead alkyl	61.5	50.8
EDB	17.9	17.9
EDC	18.8	18.8
Dye, diluent, inhibitor, etc.	1.8	12.5
Lead content	39.39	39.39

Source: Ref. 2-6
Note: wt% = Percentage by weight

In 1973, EPA initiated a "phasedown" program for leaded gasoline. This program was designed to reduce lead content from 2.0 grams per gallon to 0.5 gram per gallon in large refineries by 1980 and in small refineries by 1982 (Ref. 2-14). The program allowed refineries to average their total (both leaded and unleaded) gasoline output to achieve the 0.5-gram per gallon standard. In 1982, EPA lowered the standard for lead in fuel to 1.10 grams per gallon and eliminated the provision that allowed refineries to average their total leaded and unleaded gasoline output to meet the standard. In 1986, the standard was further reduced to 0.10 gram per gallon (Refs. 2-8 and 2-9). By 1995, sales of leaded gasoline were reduced to 0.6 percent of total gasoline sales. Effective January 1, 1996, the Clean Air Act banned the sale of leaded fuel for

on-road vehicles (Ref. 2-10). However, certain blends of automobile racing fuel continue to use alkyl lead compounds as a component of the fuel and EDB continues to be used as a lead scavenger in aviation gasoline (Avgas). Table 2-2 summarizes the allowable gasoline lead content from 1973 to 1996.

Table 2-2: Gasoline Lead Content

Year	Lead Content
1973	2.0 grams per gallon
1982	1.10 grams per gallon
1986	0.10 grams per gallon
1996	Banned for on-road vehicle use

Source: Refs. 2-8, 2-9, and 2-14

2.3 OTHER USES OF EDB AND EDC

In addition to their use as lead scavengers, EDB and EDC also have been used for other purposes, as discussed below.

2.3.1 EDB as a Pesticide and Fumigant

The second largest use of EDB was as a soil fumigant to protect citrus, vegetable, and grain crops against insects, pests, and nematodes. EDB was also widely used as a fumigant on golf courses. EDB has been registered as a pesticide since 1948. In 1977, approximately 300 million pounds of EDB was produced annually in the United States; approximately 20 million pounds was used as a pesticide, and approximately 280 million pounds was used in leaded gasoline. Of the 20 million pounds used as a pesticide, 90 percent was used as a soil fumigant, and the rest was used to fumigate stored grain, grain milling machinery, and quarantined citrus and other tropical fruits (Refs. 2-1 and 2-11).

2.3.2 Phaseout of EDB as a Fumigant

In 1977, based on evidence that EDB posed cancer risks, EPA began a Rebuttable Presumption Against Registration (RPAR) review[1]. In December 1980, after further research into the use of EDB, the agency issued a proposed decision to cancel use of the pesticide for fumigation of stored grain, milling machinery, and felled logs and to phase out its use for quarantine fumigation over a period of 2 years. On September 30, 1983, EPA ordered an immediate emergency suspension of the use of EDB as a soil fumigant for agricultural crops (Ref. 2-11). The last registered product containing EDB as a garment fumigant was Tri-X-Garment Fumigant, whose production was cancelled on September 8, 1993 (Ref. 2-12).

[1] The RPAR review process is started when EPA has evidence that a pesticide may cause unreasonable adverse effects in humans or the environment.

2.3.3 Current Uses of EDB

EDB is used as a chemical intermediate in synthesis operations and as a nonflammable solvent for resins, gums, and waxes. The most common chemical made from EDB is vinyl bromide, which is used as a flame retardant in modacrylic fibers. EDB is also used as an intermediate in the preparation of dyes and pharmaceuticals (Ref. 2-1).

Because leaded fuel is still used for some off-road applications (e.g., automobile racing fuel, aviation gasoline-Avgas) lead scavengers are still in use and potentially stored in underground storage tanks.

2.3.4 EDC as a Solvent and Fumigant

Commercial production of EDC in the United States was first reported in 1922. EDC was used in varnish and finish removers, in soaps and scouring compounds, in organic synthesis for extraction and cleaning purposes, in metal degreasers, in ore floatation, and in paints, coatings and adhesives. In 1986, approximately 85 percent of the EDC made was used in the production of vinyl chloride; 10 percent was used in the production of chlorinated solvents; and 5 percent was used for various other processes, mainly the synthesis of ethylene diamines (Ref. 2-2). By 2001, approximately 94 percent of the EDC made was used in the production of vinyl chloride. The remaining EDC was used to produce ethyleneamines (3 percent); 1,1,1-trichloroethane (1 percent); vinylidine chloride (1 percent); and miscellaneous chemicals, including trichloroethene and tetrachloroethene. EDC was also used as a grain, household, and soil fumigant. The last registered product containing EDC as a garment fumigant was Tri-X-Garment Fumigant, whose production was cancelled on September 8, 1993 (Ref. 2-13).

2.3.5 Current Uses of EDC

EDC has been replaced as a solvent and degreaser by less toxic compounds. Approximately 98 percent of the EDC currently made is used to produce vinyl chloride, a monomer used in the production of polyvinyl chloride. Smaller amounts of EDC are used in the synthesis of vinylidene chloride; 1,1,1-trichloroethane; trichloroethene; tetrachloroethene; aziridines; ethylene diamines; and in chlorinated solvents (Ref. 2-2).

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3.0 PHYSICAL AND CHEMICAL PROPERTIES AND ANALYTICAL METHODS

PRINCIPAL FINDINGS

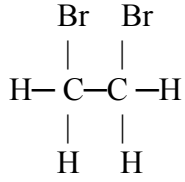
- Both EDB and EDC:
  - are more soluble in water than BTEX, but less soluble than MTBE.
  - are less volatile than BTEX or MTBE.
- EDB
  - can be detected at or below its maximum contaminant level (MCL) of 0.05 µg/L using EPA Methods 8011 or 504.1.
- EDC:
  - can be detected at or below its MCL of 5 µg/L using EPA Methods 8260B, 502.2, 504.1, or 524.2.

3.1 PHYSICAL AND CHEMICAL PROPERTIES

This section provides information about select physical and chemical properties of EDB and EDC in comparison to each other and to other common components of gasoline such as benzene, toluene, ethylbenzene, and xylene (BTEX) and methyl tert-butyl ether (MTBE). Table 3-1 identifies commonly used synonyms and trade names for EDB and EDC. Some of the important physical and chemical properties of EDB, EDC, BTEX, and MTBE are listed in Table 3-2.

The molecular structures of EDB and EDC are depicted below.

EDB ($C_2H_4Br_2$)



EDC ($C_2H_4Cl_2$)

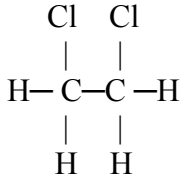


Table 3-1: Synonyms and Trade Names for EDB and EDC

Chemical	Synonyms	Trade Names
EDB	Ethylene dibromide; 1,2-dibromoethane; dibromoethane; ethylene bromide; ethane,1,2-dibromo; α-, β-dibromoethane; sym-dibromoethane; glycol bromide; glycol dibromide	Bromofume; Dowfume W85; Dowfume EDB; Dowfume 40, W-10, W-40; Dowfume MC-2; Iscobrome D; ENT 15; 349; Netis; Pestmaster EDB-85; Santryum; unifume; EDB-85; Fumogas; Icopfume soilbrom-85; soilfume
EDC	Ethylene dichloride; 1,2-dichloroethane; dibromoethane; ethane,1,2-dichloro; α-, β-dichloroethane; sym-dichloroethane	Freon 150; Borer sol; Brocide; Destruxol borer-sol; Dichlor-mulsion; Dutch liquid; Dutch oil; ENT 1656, Gaze Olefiant; Granosan

Source: Refs. 3-1, 3-2, 3-3, 3-15, and 3-16

The following relative physical properties of EDB, EDC, BTEX, and MTBE are depicted in Figures 3-1 through 3-6:

- Specific gravity
- Water solubility
- Log K_{ow} (octanol-water partition coefficient)
- Vapor pressure
- Log K_{oc} (soil organic carbon/water partition coefficient)
- Henry's law constant

Key findings about the physical properties of EDB and EDC include the following:

- The specific gravities of EDB and EDC are higher than those of BTEX and MTBE.
- EDB and EDC are more soluble in water than BTEX and less soluble than MTBE. The solubilities of EDB and EDC are 4,200 and 8,310 milligrams per liter (mg/L), respectively.
- EDB and EDC are more soluble in water and less soluble in oil than BTEX.
- EDB and EDC are less soluble in water and more soluble in oil than MTBE.
- EDB and EDC vaporize more slowly than benzene, toluene, and MTBE.
- EDB and EDC bind less easily to soil than BTEX.
- EDB and EDC bind more easily to soil than MTBE.

Table 3-2: Physical and Chemical Properties of Selected Gasoline Components-Lead Scavengers (EDB and EDC), BTEX, and MTBE

Chemical	Physical Description [1]	Molecular Structure	Molecular Weight (g/mol)	Specific Gravity	Boiling Point (^oC)	Water Solubility (mg/L)	Log K_{ow}	Vapor Pressure at 25 ^oC (mm Hg)	Log K_{oc}	Henry's Law Constant (dimensionless)
EDB	Colorless liquid with a mild, sweet odor	CH_2Br-CH_2Br	187.88	2.17 [1]	131.3 [1]	4,200 [4]	1.74 [4]	11 [1]	1.45 [4]	0.0133 [4]
EDC	Colorless, oily, organic liquid with a sweet, chloroform-like odor	CH_2Cl-CH_2Cl	98.97	1.24 [1]	83.5 [1]	8,310 [4]	1.47 [4]	12 [1]	1.58 [4]	0.0401 [4]
Benzene	Colorless to light-yellow liquid with an aromatic odor	C_6H_6	78.11[3]	0.88 [3]	80.1[3]	1,780 [3]	2.13 [3]	76 [3] 95.2 [3]	1.8-1.99 [3] 1.5 - 2.16 [3]	0.2219 [3]
Toluene	Colorless liquid with a sweet, pungent, benzene-like odor	$C_6H_5CH_3$	92.13 [3]	0.87 [3]	110.6 [3]	534.8 [3]	2.73 [3]	28.4 [3]	1.56-2.25 [3]	0.2428 [3]
Ethylbenzene	Colorless liquid with an aromatic odor	$CH_3CH_2C_6H_5$	106.16[3]	0.87 [3]	136.25 [3]	161 [3]	3.15 [3]	9.53 [3]	2.94 [3] 1.98-3.04 [3]	0.345 [3]
Xylene m-Xylene o-Xylene p-Xylene	Colorless liquid with an aromatic odor	$C_6H_4(CH_3)_2$	 106.16 [3] 106.16 [3] 106.17 [3]	 0.8842 [3] 0.8802 [3] 0.8611[3]	 139.03 [3] 144.4 [3] 137-138[3]	 146 [3] 175 [3] 156 [3]	 3.20 [3] 3.12 [3] 3.15 [3]	 8.3 [3] 6.6 [3] 8.7 [3]	 2.04-3.15 [3] 1.68-1.83 [3] 2.05-3.08 [3]	 0.3139 [3] 0.0208 [3] 0.3139 [3]
MTBE	Clear liquid with a turpene-like odor	CH_3-O-$C(CH_3)_3$	88.15 [2]	0.74 [2]	55.2 [2]	43,000 - 54,300 [2]	1.06 [2]	245-256 [2]	1.0-1.1 [2]	0.024-0.12 [2]

Notes:

(1) Data from Ref. 3-3
(2) Data from Ref. 3-5
(3) Data from Ref. 3-17
(4) Data from Ref. 3-4

Figure 3-1. Relative Specific Gravities of EDB, EDC, BTEX, and MTBE

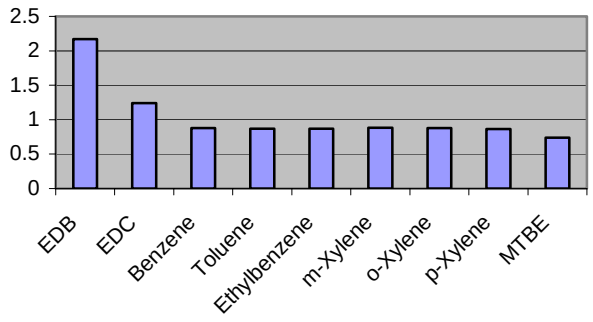


Figure 3-2. Relative Water Solubility (mg/L) of EDB, EDC, BTEX, and MTBE

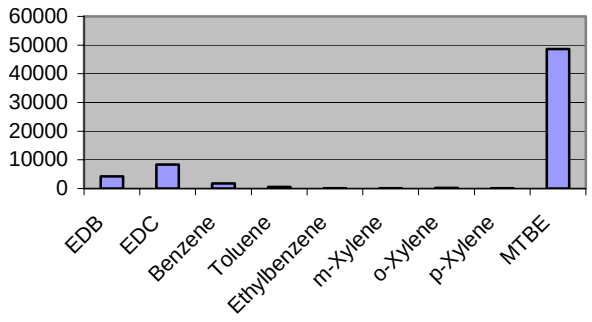


Figure 3-3. Relative Log K_{ow} * of EDB, EDC, BTEX, and MTBE

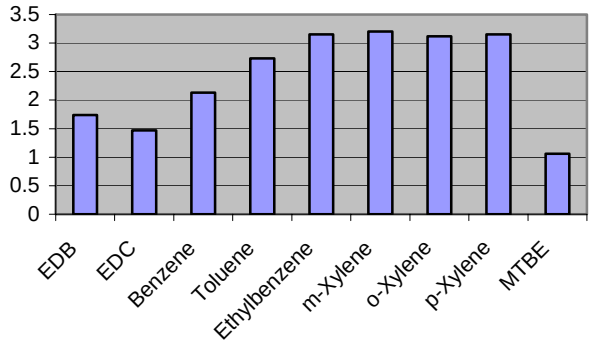


Figure 3-4. Relative Vapor Pressure (mm Hg) of EDB, EDC, BTEX, and MTBE

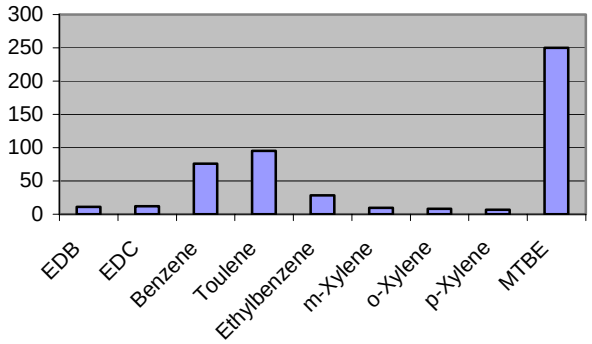


Figure 3-5. Relative Log K_{oc} + of EDB, EDC, BTEX, and MTBE

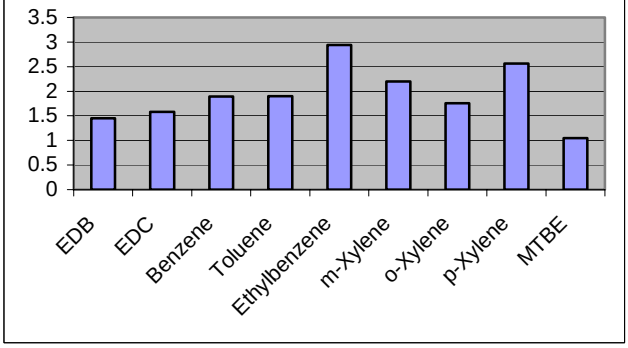
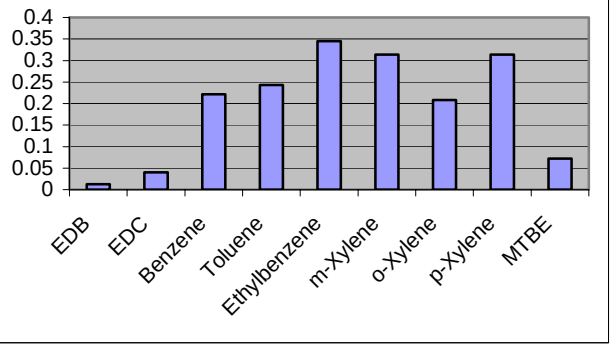


Figure 3-6. Relative Henry's Law Constants of EDB, EDC, BTEX, and MTBE



Notes

* **Octanol-water partition coefficient**

\+ **Soil organic carbon/water partition coefficient**

Source: Refer to Table 3-2.

3.2 ANALYTICAL METHODS FOR EDB AND EDC

This section summarizes the analytical methods for EDB and EDC in soil, hazardous waste, and groundwater as well as in drinking water. Groundwater used as a drinking water source must be analyzed using EPA-specified methods for drinking water.

3.2.1 Soil, Hazardous Waste, and Groundwater

EDB and EDC are listed constituents of many hazardous wastes.

- In 40 CFR 261.24, EDC is a toxicity characteristic waste with EPA Hazardous Waste (HW) No. D028. Also, 40 CFR 261.31, "Hazardous Wastes from Non-specific Sources," includes EDC under HW Nos. F024 and F025.
- In 40 CFR 261.32, "Hazardous Wastes from Specific Sources," EDC is included under HW Nos. K018, K019, K020, K029, K030, and K096, and EDB is included under HW Nos. K117, K118, and K136.
- In 40 CFR 261.33, "Discarded Commercial Products, Off-specification Species, Container Residues, and Spill Residue Thereof," EDC is included as HW No. U077, and EDB is included as HW No. U067.
- EDB and EDC are listed in Appendix VIII, "Hazardous Constituents," to 40 CFR 261. Also, both EDB and EDC are included on the "Skinner List" of hazardous constituents associated with petroleum facilities.

SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," is EPA's official compendium of analytical and test methods that have been evaluated and found to be acceptable under Subtitle C of the Resource Conservation and Recovery Act (RCRA), as amended. SW-846 describes a wide range of methodologies and can be accessed online at *http://www.epa.gov/SW-846/sw846.htm* (Ref. 3-14). Table 3-3 identifies SW-846 methods that can be used for EDB and EDC analyses.

Methods 8011 and 8021B are used for EDB analysis of wastes, soils, and similar media. Method 8260B is used for EDC analysis of wastes, soils, and similar media. Alternative methods for EDC analysis include those used for EDB and Method 8261, which uses a preliminary vacuum distillation step.

Table 3-3: Summary of EPA Analytical Methods for EDB and EDC in Soil, Hazardous Waste, and Groundwater

Chemical	EPA Method Number	Determinative Method Name	Method Detection Limit (µg/L)	Preparation Method Name	
				SW-846 Method Number	SW-846 Method Name
EDB	8011	Microextraction and Gas Chromatography with Electron Capture (Ref. 3-6)	0.01	8011	Direct Injection
	8021B	Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors (Ref. 3-7)	0.8	5030B	Purge-and-Trap
				5021	Head Space
	8260B	Volatile Organic Compounds Gas Chromatography/Mass Spectrometry (Ref. 3-6)	0.06	5030B/ 5035	Purge-and-trap
				5021	Head Space
EDC	8260B	Volatile Organic Compounds Gas Chromatography with Halogen-Specific Detectors (Ref. 3-8)	0.02	5030B/ 5035	Purge-and-Trap
				5032	Vacuum Distillation
				5021	Head Space
	8261	Vacuum Distillation in Combination with Gas Chromatography/Mass Spectrometry (Ref. 3-9)	0.1	8261	Distillation and Trap

Source: Ref. 3-14

3.2.2 Drinking Water

Periodic sampling and analysis of community water supplies for EDB and EDC (and other specified organic compounds) must be performed using the methods specified in 40 CFR 141.24 or other methods that have been demonstrated to be equivalent.

For EDC, the specified drinking water analytical methods are EPA Methods 502.2 and 524.2, both of which are general methods for many volatile organic compounds (VOC). Both methods use purge-and-trap introduction to a capillary column gas chromatography system. Method 502.2 uses photoionization and electrolytic conduction detectors in series, and Method 524.2

uses a mass spectrometry detector. Method 502.2 provides better sensitivity (a lower detection limit), whereas Method 524.2 provides independent confirmation of an analyte's identity. EDC can also be analyzed by using method 504.1.

Due to the low maximum contaminant level (MCL) of EDB (0.05 µg/L) two additional, specialized EPA methods for EDB analysis have been developed. Method 504.1 is similar to Method 502.2 but includes a preliminary extraction and concentration step to provide lower sample detection limits. Method 551.1 is similar to Method 504.1 but uses a different preliminary extraction technique that has been adapted to cover a wider variety of halogenated organic compounds. Table 3-4 summarizes the EPA analytical methods for EDB and EDC in drinking water.

Table 3-4: Summary of EPA Analytical Methods for EDB and EDC in Drinking Water

Chemical	EPA Method Number	Method Name	Method Detection Limit (µg/L)	MCL (µg/L)
EDB	504.1	Microextraction and Gas Chromatography (Ref. 3-11)	0.01	0.05
	551.1	Liquid-Liquid Extraction and Gas Chromatography with Electron Capture (Ref. 3-13)	0.032	
EDC	502.2	Purge-and-Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series (Ref. 3-10)	0.03	5
	504.1	Microextraction and Gas Chromatography with Electron Capture (Ref. 3-11)	0.01	
	524.2	Purge-and-Trap Gas Chromatography/Mass Spectrometry (Ref. 3-12)	0.06	

Source: Ref. 3-14

3.2.3 Method Adequacy

Selection of the appropriate analytical method for EDB or EDC is primarily based on the method detection limit and the intended use of the analytical data.

Analysis of some samples with high concentrations of total VOCs (such as samples containing significant quantities of gasoline) may require dilutions so that the sample detection limits are above the MCLs or risk-based limits[1] used as cleanup goals. This consideration is more relevant

[1] Various EPA regions define risk-based limits using different terminology. For example, EPA Region 3's risk-based limits are called risk-based concentrations and can be obtained from http://www.epa.gov/reg3hwmd/risk/rbc0403.pdf. EPA Region 9's risk-based limits are called preliminary remediation goals and can be obtained from

to EDB because of its lower MCL and risk-based limits. It is usually possible to work around the detection limit concerns by choosing the proper analytical method. In particular, electrolytic conductivity detectors such as those used in Methods 502.2, 504.1, 8011, and 8021B provide strong responses to halogen-containing compounds but little or no response to hydrocarbons.

Another potential problem arises when a sample has a relatively high concentration of a compound that produces a large chromatographic peak near the peak produced by EDB or EDC. In this case, the tail of the large peak may mask the EDB or EDC peak. This problem can often be overcome by adjusting the chromatographic conditions to separate the peaks.

3.3 REFERENCES

3-1 Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological Profile for 1,2-Dibromoethane. U.S. Department of Health and Human Services, Public Health Service.

3-2 ATSDR. 2001. Toxicological Profile for 1,2-Dichloroethane. U.S. Department of Health and Human Services, Public Health Service.

3-3 National Institute for Occupational Safety and Health (NIOSH). 1997. "Pocket Guide to Chemical Hazards." U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, Ohio.

3-4 U.S. Environmental Protection Agency (EPA). 1998. "Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, Volume 2, Appendix A: Chemical-Specific Data." July.

3-5 EPA. 2004. "Technologies for Treating MTBE and Other Fuel Oxygenates." May.

3-6 EPA. 1992. Test Method 8011 for 1,2-Dibromoethane and 1,2-Dibromo-3-Chloropropane by Microextraction and Gas Chromatography. July.

3-7 EPA. 1996. Test Method 8021B for Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors. December.

3-8 EPA. 1996. Test Method 8260B for Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry. December.

3-9 EPA. 2000. Test Method 8261 for Volatile Organic Compounds by Vacuum Distillation in Combination with Gas Chromatography/Mass Spectrometry. November.

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http://www.epa.gov/region09/waste/sfund/prg/index.htm.

3-10 EPA. 1995. Test Method 502.2 for Volatile Organic Compounds in Water by Purge-and-Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series.

3-11 EPA. 1995. Test Method 504.1 for 1,2-Dibromoethane and 1,2-Dibromo-3-Chloropropane and 1,2,3-Trichloropropane in Water by Microextraction and Gas Chromatography. July.

3-12 EPA. 1995. Test Method 524.2 for Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry.

3-13 EPA.1995. Test Method 551.1 for Determination of Chlorination Disinfection By-products, Chlorinated Solvents, and Halogenated Pesticide/Herbicide in Drinking Water by Liquid-Liquid Extraction and Gas Chromatography with Electron Capture Detection.

3-14 EPA. 2004. SW-846 Manual and Supporting Information. Accessed on September, 28, 2004. Online Address: *http://www.epa.gov/SW-846/sw846.htm*

3-15 EPA. 2004. Technical Fact Sheet on Ethylene Dibromide. Website Accessed on September 17, 2004. Online Address: http://www.epa.gov/safewater/dwh/t-soc/edb.html

3-16 EPA. 2004. Technical Fact Sheet on Ethylene Dichloride. Website Accessed on September 17, 2004. Online Address: http://www.epa.gov/safewater/dwh/t-voc/12-dichl.html

3-17 Zogorski, John., Murduchowitz, Abraham., Baehr, Arthur., Bauman, Bruce., Conrad, Dwayne., Drew, Robert., Korte, Nic., Lapham, Wayne., Pankow, James., Washington, Evelyn., 1997. "Fuel Oxygenates and Water Quality: Interagency Assessment of Oxygenated Fuels." National Science and Technology Council.

4.0 ENVIRONMENTAL TRANSPORT AND FATE

PRINCIPAL FINDINGS

- Both EDB and EDC:
  - Have low to moderate sorptive affinity for aquifer solids
  - Are relatively mobile in groundwater
  - Can volatilize from solution
  - Do no bioconcentrate or bioaccumulate in food chains
  - Biodegrade under both aerobic and anaerobic conditions
- EDB biodegrades more rapidly anaerobically (half-life of 15 to 50 days) than aerobically (half-life of 35 to 360 days)
- EDC biodegrades more rapidly aerobically (half-life of 100 days) than anaerobically (half-life of 400 days)

This section provides an overview of the environmental transport and fate of EDB and EDC. Much of the discussion is based on the physical and chemical properties discussed in Section 3.0 of this report. Key sources of information used in describing environmental fate include toxicological profiles for EDB and EDC published by ATSDR (Refs. 4-1 and 4-2) and a human health risk assessment protocol and technical fact sheets on EDB and EDC published by EPA (Refs. 4-7, 4-8, and 4-9).

EDB has been historically released into the environment as a result of its use as a lead scavenger and fumigant, improper land disposal of wastes containing EDB, and accidental EDB releases during its production and use in the manufacturing industry (Ref. 4-1). EDC has been historically released into the environment as a result of its use as a lead scavenger, grain fumigant, chemical intermediate, and extraction and cleaning solvent; improper land disposal of wastes containing EDC; and accidental EDC releases during its production (Ref. 4-2).

The physical, chemical, and microbiological processes that control the transport and fate of EDB and EDC in soil and groundwater are described below.

4.1 TERRESTRIAL TRANSPORT AND FATE

The terrestrial transport and fate of EDB and EDC depend on the adsorption properties of these compounds with respect to soil particles, the depth of EDB- or EDC-contaminated soil, and the bioavailability of the chemicals for microbial degradation.

4.1.1 Terrestrial Transport and Fate of EDB

The soil organic carbon/water partition coefficient, K_{oc}, is used to evaluate the adsorption properties of a compound with respect to soil particles (Ref. 4-7). The log K_{oc} value for

EDB is reported to be 1.45 (Ref. 4-7), indicating that EDB exhibits low to moderate soil adsorption and consequently high mobility in soil and the ability to leach quickly into groundwater (Refs. 4-7 and 4-10). The vapor pressure of EDB (that is, the pressure of EDB vapor in equilibrium with EDB liquid at a particular temperature) is 11 mm Hg at 25 ^{o}C (Ref. 4-1), which indicates that EDB readily partitions to the atmosphere from dry soil.

Henry's Law Constant provides a measure of the extent of chemical partitioning between air and water at equilibrium. The higher the constant, the more likely a chemical is to volatilize than to remain in water. The dimensionless value of Henry's Law Constant for EDB is 0.0133 (Ref. 4-7) indicating that volatilization of EDB from moist surfaces is expected to be an important environmental fate process (Ref. 4-5).

Direct photolysis of EDB in the troposphere is not a common phenomenon, but EDB can break down as a result of its reaction with photochemically produced hydroxyl radicals. The half-life of this reaction has been estimated to be 32 to 40 days (Refs. 4-1 and 4-8). EDB does not bioconcentrate in terrestrial food chains (Refs. 4-1 and 4-10).

EDB readily undergoes aerobic biodegradation in surface soil (Ref. 4-8), with the fastest degradation occurring at or near the soil surface. EDB is moderately persistent deeper in the soil, and a representative half-life has been estimated to be 100 days (Ref. 4-4). Biodegradation of EDB under anaerobic conditions and abiotic degradation are limited (Ref. 4-10). In fields where gaseous EDB has been applied as a soil fumigant, 99 percent of the EDB is entrapped or sorbed by the soil micropores (Ref. 4-8). This entrapped or sorbed EDB is unavailable for chemical or microbiological reactions (Ref. 4-12) and consequently is resistant to biodegradation, chemical transformation, and mobilization and may persist for long periods of time (Ref. 4-1). In one field study, EDB was detected in soil 19 years after its last known application (Ref. 4-8); the specific location of the field study was not provided. Sorbed EDB slowly leaches from micropore sites to contaminate groundwater (Ref. 4-1).

4.1.2 Terrestrial Transport and Fate of EDC

The vapor pressure of EDC (12 mm Hg at 25 ^{o}C) and its Henry's Law Constant (0.0401) indicate that EDC can partition into the air from dry and moist soil surfaces (Refs. 4-2 and 4-7). Volatilization losses occur more slowly for EDC present in subsurface soil (Ref. 4-2). In air, EDC undergoes photolytic degradation by reacting with hydroxyl radicals formed by sunlight. Significant removal of EDC from air by oxidation or direct photolysis is not expected. EDC molecules that do not undergo photolysis can persist in the atmosphere for more than 5 months and can be carried over long distances (Ref. 4-2). Based on its log K_{oc} value of 1.58 (Ref. 4-7), EDC is expected to have high mobility in soil and should be available for transport into subsurface soil or groundwater (Ref. 4-6). EDC percolates rapidly through sandy soil (Ref. 4-9).

EDC is biodegraded in soil, where a half-life value of 52 days has been reported (Ref. 4-2). The presence of methane can increase the rate of aerobic biodegradation of EDC in

soil. However, higher concentrations of EDC may prove to be toxic to microbial populations, thus decreasing the rate of biodegradation. In a respirometer study, a concentration of 0.51 mg of EDC per gram of soil resulted in a 50 percent inhibition of microbial respiration (Ref. 4-2).

4.2 GROUNDWATER TRANSPORT AND FATE

The groundwater transport and fate of EDB and EDC depend on the adsorption properties of these compounds with respect to suspended solids and sediment in the water column, their rate of leaching from soil to groundwater, and the presence of other compounds such as methane and hydrogen sulfide (H_2S).

4.2.1 Groundwater Transport and Fate of EDB

Once EDB enters groundwater, the primary mass transport processes that come into play include advection and hydrodynamic dispersion. Other processes, such as hydrolysis and biodegradation reactions, tend to retard or restrict the movement of EDB (Ref. 4-12).

Based on its log K_{oc} value of 1.45, EDB is not expected to adsorb to suspended solids and sediment in the water column (Ref. 4-5). Its dimensionless Henry's Law Constant of 0.0133 (Ref. 4-7) indicates that volatilization of EDB from groundwater pumped to the surface and exposed to atmosphere is an important environmental fate process (Ref. 4-1). Once volatilization has occurred, EDB can react with photochemically produced hydroxyl radicals (Ref. 4-1). Compared to its rate of volatilization to the atmosphere, the biotic and abiotic degradation of EDB in groundwater is slow (Ref. 4-1). EDB is resistant to abiotic hydrolysis, and its hydrolytic half-life has been reported to range from 6 to 13.2 years at 20 ^{o}C (Refs. 4-8 and 4-10).

A study reported that the half-life of EDB was reduced from 22 years to 16 years when 50 millimole (mM) phosphate buffer was added to water at pH 7 and 15^{o}C. The addition of 1mM sulfide to the 50 mM phosphate buffer at 15 ^{o}C further reduced the half-life of EDB to 160 days (Ref. 4-3). Biotic hydrolysis (biodegradation) of EDB is enhanced in the presence of a natural catalyst such as H_2S or the bisulfide ion (HS^-), with the time required for hydrolysis decreasing from several years to approximately 2 months (Refs. 4-3, 4-10, and 4-12). Ethylene glycol and bromide ions are major products of the hydrolysis reactions (Ref. 4-12).

Table 1 provides a summary of data on EDB biodegradation under aerobic and anerobic conditions. Biodegradation of EDB in groundwater occurs aerobically with a half-life of 35 to 360 days and anerobically with a half-life of 15 to 50 days. The rates of natural anaerobic biodegradation of EDB are very comparable to the rates of natural anaerobic biodegradation of benzene. Table 2 provides a summary of natural biodegradation of benzene under anaerobic conditions.

Table 4-1: Biodegradation of EDB under aerobic and anaerobic conditions

Material	Condition	Initial Concentration (mg/L)	Half Life (days)	Reference
Acclimated Aquifer	Anaerobic	0.005	50	4-16
Aquifer with Landfill Leachate	Anaerobic	0.2	15	4-17
Pristine Aquifer	Aerobic	0.006	63	4-14
Pristine Aquifer	Aerobic	0.006	84	4-14
Pristine Aquifer	Aerobic	1	>180	4-18
Acclimated Aquifer	Aerobic	0.005	74	4-16
Acclimated Aquifer	Aerobic	0.005	35 to 360	4-16
Acclimated Soil	Aerobic	0.006	2	4-15
Acclimated Soil	Aerobic	15	210	4-15

Table 4-2: Biodegradation of Benzene under anaerobic conditions

	Half Life (days)	
Mean	68 [a]	66 [b]
Median	Not Available	170 [b]

[a] Ref. 4-19
[b] Ref. 4-13

4.2.2 Groundwater Transport and Fate of EDC

Based on its Henry's Law Constant of 0.0401 (Ref. 4-7), EDC is expected to primarily volatilize from water surfaces (Ref. 4-2), with a reported half-life of several hours to 10 days. Based on its log K_{oc} value of 0.0401 (Ref. 4-7), EDC is not expected to adsorb to suspended solids and sediment in the water column (Ref. 4-9). Plants and fish take up small amounts of EDC, but the chemical is not known to bioconcentrate in fish or other aquatic organisms or to bioaccumulate in the food chain (Ref. 4-2). Biodegradation of EDC in groundwater occurs aerobically with a half-life of 100 days and anaerobically with a half-life of 400 days (Ref. 4-2).

In groundwater, EDC is resistant to hydrolysis and breaks down very slowly because of a lack of functional groups that hydrolyze under environmental conditions (Ref. 4-6). The half-life for the hydrolysis reaction has been found to be 49,000 years at a pH of 9 and 15 ^{o}C and decreases in the presence of H_2S. This suggests that hydrolysis may occur in hypoxic groundwater where H_2S occurs naturally (Ref. 4-2).

4.3 REFERENCES

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5.0 TOXICOLOGY

PRINCIPAL FINDINGS

- Contaminants such as EDB and EDC can enter the human body through dermal absorption, inhalation, and ingestion.
- Various acute and systemic effects have been reported for EDB and EDC, including gastrointestinal, cardiovascular, neurotoxic, nephrotoxic, and hepatotoxic effects.
- EDB has been shown to be a potent mutagen, both *in vivo* and *in vitro*.
- Both EDB and EDC are probable human carcinogens
- The drinking water MCLs for EDB and EDC are 0.05 and 5 µg/L, respectively.

EPA's National Center for Environmental Assessment (NCEA) identified the ATSDR toxicological profiles for EDB and EDC completed in 1992 and 2001, respectively, as the primary sources of information for the health effects of these compounds (5-10). Information from these profiles is summarized below. Information about the carcinogenic effects of EDB and EDC were obtained from EPA's Integrated Risk Information System (IRIS), which provides reference values for inhalation and oral exposure of humans to these compounds (Refs. 5-14 and 5-16).

5.1 EXPOSURE PATHWAYS

Contaminants such as EDB and EDC must enter the body through one or more exposure pathways before causing damage to a 'target' tissue or organ. There are three major pathways of exposure to these contaminants: dermal absorption, inhalation exposure, and oral exposure or ingestion (Refs. 5-1 and 5-3). Biochemical pathways have been proposed for the metabolism of both EDB and EDC (Refs. 5-1 and 5-3) as shown in Figures 5-1 and 5-2.

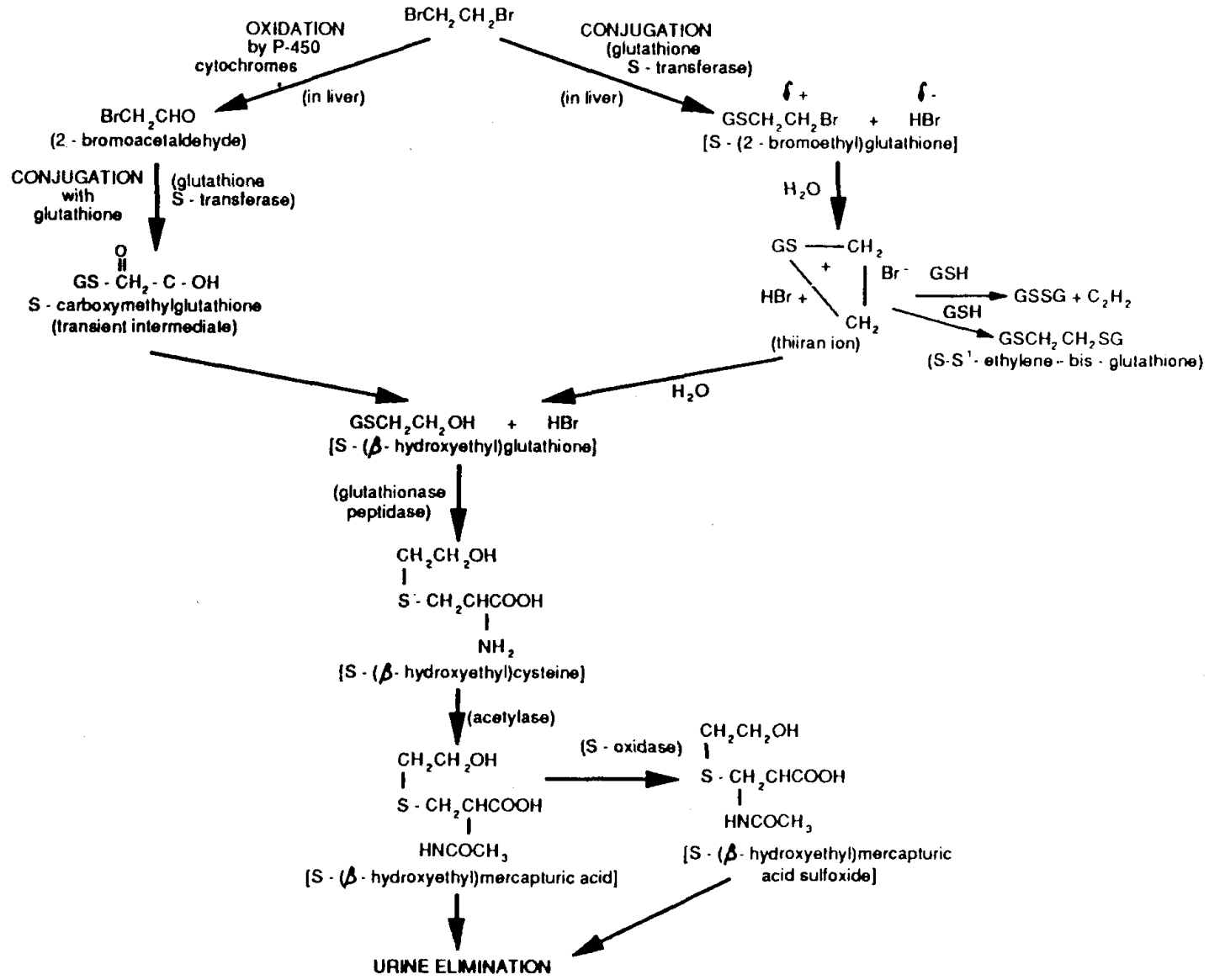

Figure 5-1. Proposed Pathways for Metabolism of EDB (Ref. 5-1)

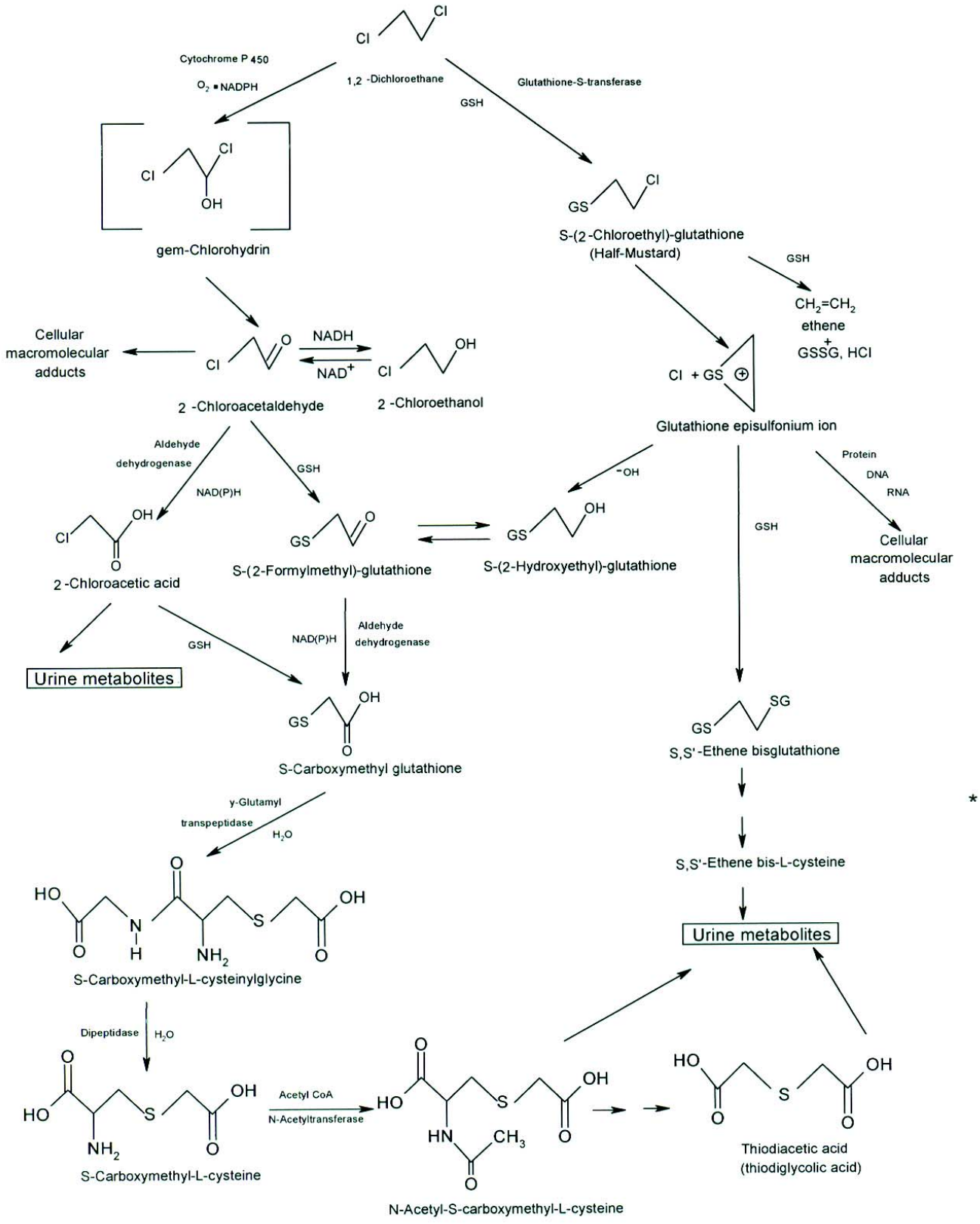

Figure 5-2. Proposed Pathways for Metabolism of EDC (Ref. 5-3)

The three pathways of EDB and EDC exposure are briefly discussed below.

5.1.1 Dermal Absorption

Dermal Absorption of EDB: EDB can be absorbed via the dermal pathway of human exposure. EDB is then distributed to various organs in the body and is metabolized in various tissues into toxic metabolites such as 2-bromoacetaldehyde (Ref. 5-1). EDB metabolism can occur via two pathways:

- Microsomal oxidation using cytochrome P-450 leads to formation of 2-bromoacetaldehyde, an intermediate that binds to cellular proteins. The 2-bromoacetaldehyde can be further metabolized into 2-bromoethanol, which is highly genotoxic (Ref. 5-1).

- Conjugation of EDB with glutathione leads to formation of S-(2-bromoethyl) glutathione, a highly reactive alkylating agent that can bind to deoxyribose nucleic acid (DNA), leading to genotoxic and probably carcinogenic effects (Ref. 5-1).

Dermal Absorption of EDC: EDC is absorbed into the skin following dermal exposure of humans. Percutaneous absorption of EDC (with possible concurrent inhalation exposure) has been reported to cause increased levels of EDC in the breast milk of nursing women. EDC was found to be excreted unchanged in exhaled air following dermal exposure. The concentration of EDC in exhaled air was greatest immediately after skin contact and decreased gradually with time (Ref. 5-3).

5.1.2 Inhalation Exposure

Inhalation Exposure to EDB: Inhalation is an important pathway of EDB exposure for humans. The respiratory tract, particularly the nasal cavity, is the point-of-contact target organ affected by inhalation of EDB (Ref. 5-1). Kidney and liver lesions that develop as a result of inhalation exposure to EDB are indicative of the distribution of EDB to these organs. EDB is extensively metabolized in various tissues and organs into 2-bromoacetaldehyde as well as other toxic metabolites. Excretion of the metabolites occurs primarily in the urine (Ref. 5-1).

Inhalation Exposure to EDC: The general population may be exposed to EDC through inhalation of air containing EDC. Air emissions comprise the largest component of releases of EDC into the environment (Ref. 5-3). People living at or near uncontrolled hazardous waste sites or working in a factory where EDC is used may be exposed to higher EDC concentrations (Ref. 5-5). The absorption and distribution of EDC following inhalation are rapid and complete (Ref. 5-7). The high vapor pressure and high serum-air partition coefficient of EDC allow it to be easily absorbed through the lungs following inhalation exposure (Ref. 5-3). EPA also found that inhalation exposure to EDC causes its accumulation in the breast milk of nursing women, mainly because of its high lipid-water partition coefficient. EDC was also detected in the breath of these nursing women shortly after they left the contaminated location, indicating rapid distribution of EDC in the body following inhalation exposure.

5.1.3 Ingestion

EDB and EDC can enter the human bloodstream through the digestive tract. Millions of villi (projections) in the small intestine provide surface area for absorbing toxic substances into the bloodstream. Absorption of toxic substances in the intestines depends on the specific contaminant, its molecular size, and its lipid solubility (Refs. 5-1 and 5-3).

Ingestion of EDB: The general population may be exposed to EDB in drinking water. EDB can be absorbed through the digestive tract in humans and is extensively metabolized into toxic 2-bromoacetaldehyde. Excretion of the metabolite occurs primarily in the urine (Ref. 5-1).

Ingestion of EDC: The general population may be exposed to EDC in drinking water. However, industrial releases of EDC to surface water are relatively minor compared to atmospheric releases (Ref. 5-3). EDC is rapidly absorbed into the systemic circulation following oral exposure. Because of its lipophilicity, EDC is absorbed largely via passive diffusion across the mucosal membrane of the gastrointestinal tract (Ref. 5-3). Available information suggests that oral absorption of an aqueous solution of EDC is rapid and complete (Ref. 5-7); hence, ingestion of water contaminated with EDC is of particular concern. However, limited information is available regarding health effects resulting from long-term exposure to low levels of EDC in drinking water. The different types of effects that occur upon ingestion of EDC suggest that it is widely distributed in the human body (Ref. 5-3).

5.2 SITE OF EFFECT

Once EDB or EDC enters the human body, the effects of the exposure may be either *localized* or *systemic*.

5.2.1 Localized Effects

If the effects are *localized*, the immediate site of entry of EDB or EDC is affected.

Skin exposure to EDB has been shown to result in severe irritation, reddening, blistering, and burning. Direct eye exposure to EDB could cause severe damage (Ref. 5-12). Skin exposure of EDC can cause severe irritation and moderate edema. Direct eye exposure to EDC can cause immediate discomfort with conjunctival hyperemia and slight corneal injury (Ref. 5-3).

5.2.2 Systemic Effects

In *systemic* effects, the effects of EDB or EDC occur at other sites in the body. Either compound may affect an organ or the central nervous system and thus affect body functions. For systemic effects to occur, the rate of accumulation of EDB or EDC must exceed the body's ability to eliminate (or excrete) the compound or transform it into a less harmful substance (Refs. 5-1 and 5-3).

Systemic Effects of EDB: The systemic effects of EDB are primarily due to the metabolic conversion of EDB to the toxic by-product 2-bromoacetaldehyde (Ref. 5-6). Both acute

inhalation and dermal exposures to high concentrations of EDB have been shown to cause mucous membrane irritation, central nervous system depression, metabolic acidosis, liver and kidney damage, and death in humans. Ingestion of a lethal (4.5 milliliters) or sublethal amount of EDB has been shown to cause gastrointestinal effects as well as massive kidney and liver damage, depression, disorientation, and collapse in humans (Ref. 5-1).

Systemic Effects of EDC: Acute and occupational inhalation exposure to EDC vapors has been shown to cause adverse health effects in humans, including nephrotoxic and hepatotoxic effects, respiratory distress, cardiac arrythmia, nausea, and vomiting (Ref. 5-3). Ingestion of EDC can lead to systemic effects such as respiratory failure, gastrointestinal effects, cardiovascular dysfunction, hematological effects, and acute renal damage (Ref. 5-3). Nervous system disorders have also been reported in humans ingesting or inhaling large quantities of EDC (Ref. 5-5).

5.3 HEALTH EFFECTS

This section provides an overall perspective of the toxicology of EDB and EDC in light of various adverse acute and chronic health effects. Short-, intermediate-, and long-term health effects can result from inhalation or ingestion of, or dermal contact to EDB and EDC. Acute and chronic effects are discussed below.

5.3.1 Acute Effects

Acute effects arise shortly after human contact with EDB and EDC.

Acute Effects of EDB: EPA has found EDB to potentially cause acute health effects after exposure to EDB levels above MCL for relatively short periods of time (Ref. 5-17). Early symptoms of acute exposure to EDB include irritation of the nose and throat (Ref. 5-6). Symptoms of acute toxicity when EDB is ingested include oropharyngeal ulceration; erosion of the mouth, pharynx, and gastric mucosa; vomiting; watery diarrhea; anuresis; depression; and collapse. In some cases, massive hepatic centrilobular necrosis and proximal tubular epithelial damage of the kidneys have been reported in autopsies (Ref. 5-1). Occupational exposure (inhalation or dermal exposure) to EDB is known to have caused death (Ref. 5-1). EDB may be lethal to humans after a single oral dose of 65 milligrams per kilogram (mg/kg) (Ref. 5-22).

Acute Effects of EDC: EPA has found EDC to potentially cause acute health effects after exposure to EDC levels above MCL for relatively short periods of time (Ref. 5-18). Inhalation of EDC has been reported to cause many acute effects. Respiratory effects following acute exposure included severe pulmonary congestion, edema, and chronic bronchitis. Degenerative changes of the myocardium such as fragmentation, loss of nuclei of myocardial fibers, interstitial edema, and death because of cardiac arrythmia were also reported. Epigastric pain, nausea, and vomiting were some of the gastrointestinal symptoms observed in people exposed to unreported air concentrations of EDC in a packing plant for 2 to 5 months. Nausea, vomiting, and unspecified blood changes were also reported in a study of workers exposed to 10 to 37 parts per million (ppm) of EDC in air (Ref. 5-8). Hematological effects included transient leukocytosis 5 days after a single 4-hour occupational exposure of factory workers to EDC in air. Hepatic effects resulted in liver enlargement, high serum levels of lactate and ammonia, increased serum

levels of glutamic oxaloacetic transaminase (SGOT) and glutamic pyruvic transaminase (SGPT) indicating liver damage, and extensive centrilobular necrosis that eventually contributed to death. EDC is acutely nephrotoxic in humans following inhalation exposure, causing increased kidney weight and tubular degeneration (Ref. 5-3).

Ingestion of EDC has been shown to cause acute health effects such as congestion, pulmonary edema, dyspnea, and bronchitis. Cardiovascular insufficiency and hemorrhage have also contributed to death following acute ingestion of EDC. Gastrointestinal symptoms such as nausea, vomiting, and diarrhea were reported prior to death after oral exposure to 500 to 700 mg/kg-day of EDC. Autopsies of the patients revealed hemorrhagic colitis, hemorrhagic gastritis, and focal hemorrhages of the gastrointestinal tract. Adverse hematological effects such as increased prothrombin time and reduction in blood clotting factors were observed in patients after their ingestion of 570 mg/kg of EDC. EDC has been shown to be a hepatotoxin in humans, causing severe hepatocellular damage, liver atrophy, and necrosis after acute oral exposure. Acute renal damage resulting from EDC ingestion is also reported to have caused bleeding and hyperemia of the kidney (Ref. 5-3).

5.3.2 Chronic Effects

Chronic health effects result from long-term exposure to EDB and EDC (Refs. 5-1 and 5-3).

5.3.2.1 Reference Concentration for Chronic Inhalation Exposure

The reference concentration (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 RfC takes into account toxic effects on the respiratory system (port of entry) and peripheral effects. The inhalation RfC, which is expressed in milligrams per cubic meter (mg/m^3), is analogous to the oral RfD and is based on the assumption that thresholds exist for certain toxic effects such as cellular necrosis (Ref. 5-16). The RfC for EDB has been found to be 9 E^{-3} mg/m^3 (5-20). The RfC for EDC is not available at this time (Ref. 5-10). An updated IRIS file for EDC is scheduled to be released by November 2005 (Ref. 5-10).

5.3.2.2 Reference Dose for Chronic Oral Exposure

The reference dose (RfD) is an estimate of a daily oral exposure of the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. The RfD is based on the assumption that thresholds exist for certain toxic effects such as cellular necrosis and is expressed in mg/kg-day (Ref. 5-16). The RfD for EDB has been found to be 9 E-3 mg/kg-day (Ref. 5-20). The RfD for EDC is not available at this time (Ref. 5-10).

5.3.2.3 Carcinogenicity

EDB: ATSDR reported that epidemiological studies are inadequate to determine whether a correlation exists between environmental exposure to EDB and increased risk of cancer in

humans (Ref. 5-1). Carcinogenic effects were observed in workers who were occupationally exposed to EDB, primarily via the respiratory route (Ref. 5-1). EPA has designated EDB as a probable[1] human carcinogen (Ref. 5-20), and the U.S. Department of Health and Human Services (DHHS) has determined that EDB may be reasonably anticipated to be a carcinogen (Ref. 5-4).

EDC: Several agencies have determined that EDC has carcinogenic potential; DHHS has determined that EDC may reasonably be expected to cause cancer; EPA has determined that EDC is a probable human carcinogen while the International Agency for Research on Cancer (IARC[2]) considers EDC to be a possible[3] human carcinogen (Ref. 5-5). In animal studies, increases in the occurrence of cancers of the stomach, mammary gland, liver, lung, and endometrium have been observed (Ref. 5-5). Studies of the carcinogenicity of EDC in human subjects after oral or inhalation exposure were considered inconclusive and could not specifically link EDC exposure to cancer occurrence (Ref. 5-3).

5.3.2.4 Reproductive and Developmental Effects

EDB: There is inconclusive but suggestive evidence that EDB may cause abnormal sperm and decreased male fertility (Ref. 5-1). A study of agricultural workers exposed to EDB used as a fumigant revealed statistically significant decreases in sperm counts and in the percentages of viable and motile sperm as well as significant increases in sperm with morphological abnormalities (Ref. 5-1). Another study concluded that human exposure to EDB concentrations between 0.5 and 5.0 ppm was associated with lower sperm counts (Ref. 5-8).

EDC: It is not known whether inhalation, ingestion, or dermal exposure to EDC can cause birth defects or other developmental effects in humans (Ref. 5-5).

5.3.2.5 Mutagenic Effects

EDB: EDB is a potent mutagen and can cause genetic damage, including point mutations, chromosomal aberration, and primary DNA damage in both *in vivo* and *in vitro* systems. Chromosomal aberrations and sister chromatid exchanges were seen in cultured mammalian cells (Ref. 5-22).

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[1] Based on the 1986 EPA classification of carcinogens, "probable" carcinogens (Group B) include those agents for which the weight of evidence of human carcinogenicity based on epidemiological studies is "limited" and those agents for which the weight of evidence of human carcinogenicity based on animal studies is "sufficient" (Ref. 5-19).

[2] IARC is part of the World Health Organization. IARC coordinates and conducts research on the causes of human cancer and the mechanisms of carcinogenesis and develops scientific strategies for cancer control. IARC also disseminates scientific information through publications, meetings, courses, and fellowships. Its online address is http://www.iarc.fr.

[3] Based on the 1986 EPA classification of carcinogens, "possible" carcinogens (Group C) include those agents for which there is limited evidence of carcinogenicity in animals in the absence of human data (Ref. 5-19).

EDC: *In vitro* genotoxicity studies have shown that EDC can interact with human DNA and produce point mutations in human cells (Ref. 5-3).

5.4 STANDARDS AND GUIDELINES

A range of agencies is responsible for standards and guidelines to protect the public and workers from exposure. Drinking water standards are part of the Safe Drinking Water Act requirements and are set by EPA to control the level of contaminants in the nation's drinking water. There are two categories of drinking water standards: primary standards (also known as MCLs) and secondary standards. Public water systems (PWS), which provide water for human consumption through at least 15 service connections, or regularly serve at least 25 individuals, are required to comply with drinking water standards (Ref. 5-21). Recommendations for workplace exposure are provided by NIOSH and American Conference of Governmental Industrial Hygienist (ACIGH). The Occupational Safety and Health Administration (OSHA) sets legally enforceable workplace exposure limits. Table 5-1 provides information about selected federal standards and guidelines for EDB and EDC. Table 5-2 provides information about selected state drinking water standards for EDB and EDC.

Table 5-1: Selected Federal Standards and Guidelines for EDB and EDC

		EDC
MCL	The drinking water MCL is 0.05 µg/L. EPA requires that spills of 1,000 pounds or more be reported (Refs. 5-9 and 5-15).	The drinking water MCL is 5 µg/L (Refs. 5-9 and 5-15).
OSHA	The legal airborne permissible exposure limit (PEL) is 20 ppm averaged over an 8-hour workshift; 30 ppm is an acceptable ceiling; 50 ppm is the maximum peak above the acceptable ceiling and is not to be exceeded during any 5-minute work period (Ref. 5-13).	The OSHA limit is 50 ppm in workplace air for 8-hour shifts and 40-hour work week (Ref. 5-13).
NIOSH	The recommended airborne exposure limits are 0.045 ppm averaged over a 10-hour workshift and 0.13 ppm, which should not be exceeded during any 15-minute work period (Ref. 5-11).	1 ppm (Ref. 5-11)
ACGIH	ACGIH recommends that exposure by all routes be controlled to keep levels as low as possible (Ref. 5-2).	Not provided

Table 5-2: Selected State Drinking Water Standards for EDB and EDC

		EDC
California[1]	0.05 µg/L	0.5 µg/L
Kansas[2]	0.05 µg/L	5 µg/L
New Jersey[3]	0.05 µg/L	2 µg/L
South Carolina[4]	0.05 µg/L	5 µg/L

Notes:

1. Title 22 – *California Code of Regulations*. June 2004. Pages 91 and 126. http://www.dhs.ca.gov/ps/ddwem/publications/lawbook/dwregulations-06-01-04.pdf
2. Kansas Department of Health and Environment, Bureau of Water, Public Water Supply Section. Website Accessed on October 5, 2004. http://www.kdhe.state.ks.us/pws/dmcu.html
3. New Jersey Department of Environmental Protection, Water Supply Administration. Website Accessed on October 6, 2004. http://www.state.nj.us/dep/watersupply/standard.htm
4. South Carolina Department of Health and Environmental Control, Bureau of Water. State Primary Drinking Water Regulations. September 2003. http://www.scdhec.net/water/regs/r.61-58/61-58.5.pdf

5.5 REFERENCES

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5-7 California, State of. 2000. Determination of Noncancer Chronic Reference Exposure Levels, Batch 2A. Chronic Toxicity Summary - Ethylene Dichloride. Office of Environmental Health Hazards Assessment. http://www.oehha.ca.gov

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5-10 EPA. 1993. Integrated Risk Information System (IRIS) File on 1,2-Dichloroethane. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. Website Accessed on September 29, 2005. http://www.epa.gov/iris/subst/0149.htm

5-11 National Institute for Occupational Safety and Health (NIOSH). 1997. *Pocket Guide to Chemical Hazards.* U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, Ohio.

5-12 New Jersey Department of Health and Senior Services. 2001. Hazardous Substance Factsheet on Ethylene Dibromide.

5-13 Occupational Safety and Health Administration (OSHA). 1998. CFR. Title 29. Section 1910.1000. "Occupational Safety and Health Standards, Toxic and Hazardous Substances".

5-14 U.S. Environmental Protection Agency (EPA). 1991. Integrated Risk Information System (IRIS) File on 1,2-Dichloroethane. National Center for Environmental Assessment, Office of Research and Development. Washington, DC. Website Accessed on September 23, 2004. http://www.epa.gov/iris/subst/0361.htm

5-15 EPA. 2003. National Primary Drinking Water Standards. EPA 816-F-03-016.

5-16 EPA. 2004. Integrated Risk Information System (IRIS) File on 1,2-Dibromoethane. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. Website Accessed on September 23, 2004. http://www.epa.gov/iris/subst/0361.htm

5-17 EPA. 2004. Consumer Factsheet on Ethylene Dibromide. Website Accessed on October 5, 2004. http://www.epa.gov/safewater/contaminants/dw_contamfs/ethylene.html

5-18 EPA. 2004. Consumer Factsheet on Ethylene Dichloride. Website Accessed on October 5, 2004. http://www.epa.gov/safewater/contaminants/dw_contamfs/12-dichl.html

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6.0 OCCURRENCE IN DRINKING WATER

PRINCIPAL FINDINGS

- Data from approximately 22,000 groundwater-supplied public water systems (PWS) in 24 states indicates that 12 PWSs reported EDB concentrations above the federal MCL and 24 PWSs reported EDC concentrations above the federal MCL.
- From 1993 to 2004, there were 62 MCL violations for EDB and 32 MCL violations for EDC were reported for 40 and 17 groundwater-supplied PWSs, respectively
- Groundwater-supplied drinking water systems in Florida had EDB concentrations ranging from 3.8 to 272 µg/L and EDC concentrations ranging from 0.1 to 0.5 µg/L.
- Ffrom 1991 to 1994, six states reported EDB concentrations above the MCL and one state reported EDC concentrations above the MCL.
- Of the 2,542 rural wells sampled by the U.S. Geological Survey, EDB was detected in 8 wells at a median concentration of 0.9 µg/L. EDB was not detected in any of 406 urban wells.

To evaluate the occurrence of EDB and EDC in drinking water, EPA identified the following documents and databases that provided relevant information:

- "Occurrence of Unregulated Contaminants in Public Water Systems – A National Summary" (Ref. 6-5) covers EDB and EDC data from 1988 to 1992 for more than 24,000 PWSs in 40 states.
- "A Review of Contaminant Occurrence in Public Water Systems" (Ref. 6-4) covers EDB and EDC data from 1982 to 1998 based on an 8-state subset.
- "Occurrence Estimation Methodology and Occurrence Findings Report for the Six-Year Review of Existing National Primary Drinking Water Regulations" (Ref. 6-6) also summarizes data from the eight-state subset evaluated in "A Review of Contaminant Occurrence in Public Water Systems."
- The Safe Drinking Water Information System (Ref. 6-9) includes information about every PWS in the country, including violations reported from 1993 through June 2004.
- The Drinking Water Database maintained by the Florida Department of Environmental Protection (Ref. 6-2) includes EDB and EDC data for drinking water systems from 2001 to 2003.

Additional information about groundwater quality was gathered from the following sources. The content of these sources, however, is not limited to groundwater-supplied drinking water systems.

- National Water Quality Assessment Program (Ref. 6-11)
- National Library of Medicines (NLM) (Ref. 6-3)
- STORET (Ref. 6-10)
- HazDat database (Ref. 6-1)

The MCL for EDB is set at 0.05 µg/L. The MCL for EDB became effective in 1992 and required water suppliers to collect and analyze water samples once every 3 months for 1 year (between 1993 and 1995) to determine whether EDB was present at concentrations above 0.01 µg/L. If it was present above the 0.01-µg/L level, a water supplier had to continue to monitor for EDB. If EDB concentrations are consistently above the MCL, a water supplier must take steps to reduce the EDB concentration so that it is consistently below the MCL. EPA has identified granular activated carbon (GAC), packed tower aeration (PTA), and oxidation as the best treatment technologies for EDB contamination (Ref. 6-8).

The federal MCL for EDC is set at 5 µg/L. The MCL for EDC became effective in 1989 and required water suppliers to collect water samples once every 3 months for 1 year (between 1993 and 1995) to determine whether EDC was present at concentrations above 0.5 µg/L. If it was present above the 0.5-µg/L level, a water supplier had to continue to monitor for EDC. If EDC concentrations are consistently above the MCL, a water supplier must take steps to reduce the EDC concentration so that it is consistently below the MCL. EPA has identified GAC, PTA, and oxidation as the best treatment technologies for EDC contamination (Ref. 6-7).

Several documents and databases have been reviewed to evaluate the occurrence of EDB and EDC in drinking water. The following sections summarize the sources of information and data available.

6.1 HISTORICAL SUMMARY OF OCCURRENCE DATA COMPILED BY EPA

Three sources of historical data compiled by EPA's Office of Water were used to evaluate the occurrence of EDB and EDC:

- "Occurrence of Unregulated Contaminants in Public Water Systems – A National Summary" (EPA-815-P-00-002, June 2001)
- "A Review of Contaminant Occurrence in Public Water Systems" (EPA 816-R-99-006, November 1999)
- "Occurrence Estimation Methodology and Occurrence Findings Report for the Six-Year Review of Existing National Primary Drinking Water Regulations" (EPA 815-R-03-006, June 2003)

"Occurrence of Unregulated Contaminants in Public Water Systems – A National Summary" presents data from two databases: the Unregulated Contaminant Information System (URCIS) and Safe Drinking Water Information System (SDWIS). However, the June 2001 report does not provide EDB and EDC data from SDWIS. The URCIS data for EDB and EDC are generally from 1988 to 1992 and cover more than 24,000 PWSs in 40 states. The report evaluates available data and concludes that 24 states with a total of 22,000 PWSs had adequate and unbiased data that could be used to develop a representative distribution. These data were evaluated to provide results that were generally indicative of national contaminant occurrence, and EDB was identified as a "high occurrence contaminant." A summary of the evaluation is presented in Table 6-1. The report notes that the data suggest widespread occurrence of EDB with no apparent geographic pattern across the country (Ref. 6-5).

Table 6-1: Subset of URCIS Data for EDB and EDC (1988 to 1992)

Approximate number of PWSs nationally	50,000
Number of PWSs used for analyses in the report	22,000
Number of states included in the report	24
Percentage of PWSs included in the report	44%
Percentage of population served included in the report	51%
Percentage of groundwater-supplied PWSs included in the report	88%
Percentage of groundwater-supplied PWSs with EDB concentrations above the federal MCL (0.05 µg/L) (based on 10,274 systems with EDB data)	0.12%
Number of groundwater-supplied PWSs with EDB concentrations above the federal MCL (0.05 µg/L) (based on 10,274 systems with EDB data)	12
Percentage of groundwater-supplied PWSs with EDC concentrations above the federal MCL (5 µg/L) (based on 14,192 systems with EDCB data)	0.17%
Number of groundwater-supplied PWSs with EDC concentrations above the federal MCL (5 µg/L) (based on 14,192 systems with EDC data)	24

Source: Ref. 6-5

Similar data are presented in the EPA report titled "A Review of Contaminant Occurrence in Public Water Systems" (November 1999). These data include information on EDB and EDC (in addition to other contaminants) from several sources, including URCIS and numerous state databases maintained under the Safe Drinking Water Act (SDWA). URCIS data are generally from 1983 to 1992, with most of the data from the first round of required unregulated-contaminant monitoring that began in 1987. State databases maintained under SDWA contain data from various years ranging from 1982 to 1998. The EPA report uses a subset of the states' data for analyses to provide results that are representative of PWSs across the country. This subset includes data from eight states, which represents more than 20 percent of the PWSs nationwide and over 25 percent of the total population served. The eight states are New Jersey, Illinois, California, Michigan, Alabama, Oregon, New Mexico, and Montana. EDB and EDC data presented in the report for groundwater-supplied PWSs are summarized in Table 6-2 (Ref. 6-4).

Table 6-2: Summary of EDB and EDC Data for Groundwater-Supplied PWSs from Eight State Databases (1982 to 1998) and URCIS (1983 to 1992)

Contaminant:	EDB		EDC	
Data Source:	*SDWA*	*URCIS*	*SDWA*	*URCIS*
Number of systems analyzing for contaminant	9,122	10,579	15,959	14,640
Number of systems whose data are included in subset of national data	7,732	NA	12,388	NA
Percentage of systems with detections	1.0%	1.08%	1.4%	1.61%
Percentage of systems exceeding MCL (EDB-0.05 µg/L; EDC-5 µg/L)	0.7%	0.69%	0.4%	0.25%

Note: NA -- Not available
Source: Ref. 6-4

The June 2003 EPA document titled "Occurrence Estimation Methodology and Occurrence Findings Report for the Six-Year Review of Existing National Primary Drinking Water Regulations" (Ref. 6-6) also summarizes data from the eight-state subset identified above. This document is based on the data presented in EPA's "A Review of Contaminant Occurrence in Public Water Systems" (November 1999, Ref 6-4) and includes analytical evaluations and statistical analyses of the data. The document states that several contaminants, including EDB, are consistently ranked as the most frequently occurring synthetic organic chemicals. This report also indicates that in groundwater-supplied PWSs, EDB was detected above its MCL at a higher percentage than combined BTEX compounds, and EDC was detected above its MCL at a lower percentage than combined BTEX compounds. More than 17 percent of the populations served by all systems (both groundwater- and surface water-supplied PWSs) included in the eight-state subset had EDB concentrations above the MCL. The document includes EDB data from 7,344 groundwater-supplied PWSs that serve nearly 39 million people. Nearly 23 percent of this population is served by systems that have reported EDB concentrations above the MCL. Similarly, the document includes EDC data from 10,081 groundwater-supplied PWSs that serve approximately 44 million people. Nearly 18 percent of this population is served by systems that have reported EDC concentrations above the MCL.

6.2 EPA SAFE DRINKING WATER INFORMATION SYSTEM

SDWIS maintained by EPA's Office of Water contains basic information about the nation's drinking water supply. The information is provided by the states and EPA's regional offices and is reported for every PWS in the United States. The PWS information includes data on system status, the population served, the primary source of drinking water, enforcement actions, variances, milestones, and violations for federally regulated contaminants. Information about violations, such as the type of violation, the contaminant involved, and when the violation occurred, is available for the period from 1993 through June 2004 (Ref. 6-9).

Data were reviewed for groundwater-supplied systems with MCL violations for EDB and EDC. SDWIS includes data for violations (1) where average concentrations for four quarters exceed an MCL and (2) where a single sample exceeds an MCL. Fourteen states and one tribal community reported a total of 62 violations for EDB, and eight states reported 32 violations for EDC. Table

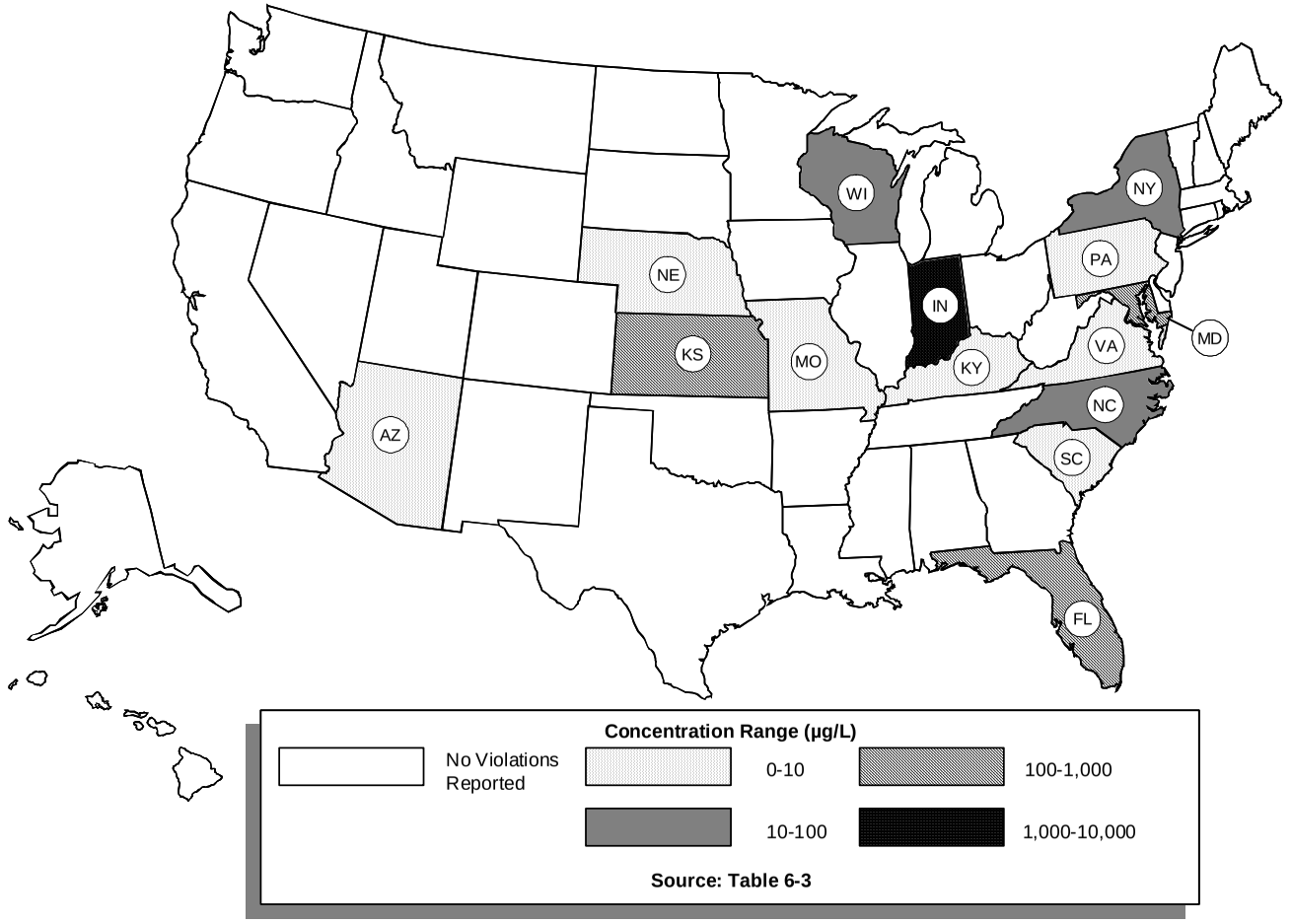
6-3 summarizes these MCL violations, including concentration ranges and populations served by these systems. The total population served by systems that reported EDB violations is approximately 65,000; the populations for each system range from 10 to 31,590. The total population served by systems that reported EDC violations is nearly 95,000; the populations for each system range from 43 to 44,000. Based on data presented in this report only, MCL violations for these two contaminants are more likely to occur in smaller systems. Figures 6-1 and 6-2 respectively show EDB and EDC concentration ranges associated with drinking water violations across the United States (Refs. 6-5 and 6-9).

Table 6-3: Summary of EDB and EDC MCL Violations at Groundwater-Supplied Systems (1993 to 2004)

	EDB (Federal MCL = 0.05 µg/L)				**EDC** (Federal MCL = 5 µg/L)			
State	Number of Violations*	Number of Systems	Conc. Range (µg/L)*	Pop. Served	Number of Violations*	Number of Systems	Conc. Range (µg/L)*	Pop. Served
Tribal	4	2	104 – 890	350 – 530	0	0	NA	NA
Alaska	0	0	NA	NA	2	1	5,860 – 6,230	100
Arizona	1	1	0.01	1,200	0	0	NA	NA
Connecticut	0	0	NA	NA	1	1	12.7	318
Florida	4	4	44.4 – 272	40 – 3,200	0	0	NA	NA
Indiana	3	3	220 – 9,400	250 – 31,590	0	0	NA	NA
Kansas	2	2	90 – 750	148 – 243	0	0	NA	NA
Kentucky	1	1	0.41	15	0	0	NA	NA
Maryland	2	2	80 - 693	63 – 84	0	0	NA	NA
Michigan	0	0	NA	NA	1	1	20,000	51
Minnesota	0	0	NA	NA	2	2	6,200 – 7,400	46 – 44,000
Missouri	1	1	0.12	750	0	0	NA	NA
Nebraska	4	3	0.08 – 1.372	198 – 9,800	2	2	7.12 – 11,000	187 – 237
New Jersey	0	0	NA	NA	19	7	2,600 – 12,000	82 – 23,892
New York	1	1	58	10	0	0	NA	NA
North Carolina	25	13	0.062 – 15	80 – 4,016	0	0	NA	NA
Pennsylvania	2	1	0.29	400	3	2	17 – 133	43 – 4,000
South Carolina	1	1	0.14	1,240	0	0	NA	NA
Virginia	10	4	0.08 – 0.31	60 – 1,300	0	0	NA	NA
Wisconsin	1	1	77.6	385	2	1	6,640 – 7,430	44
Total	**62**	**40**	**NA**	**65,269**	**32**	**17**	**NA**	**94,663**

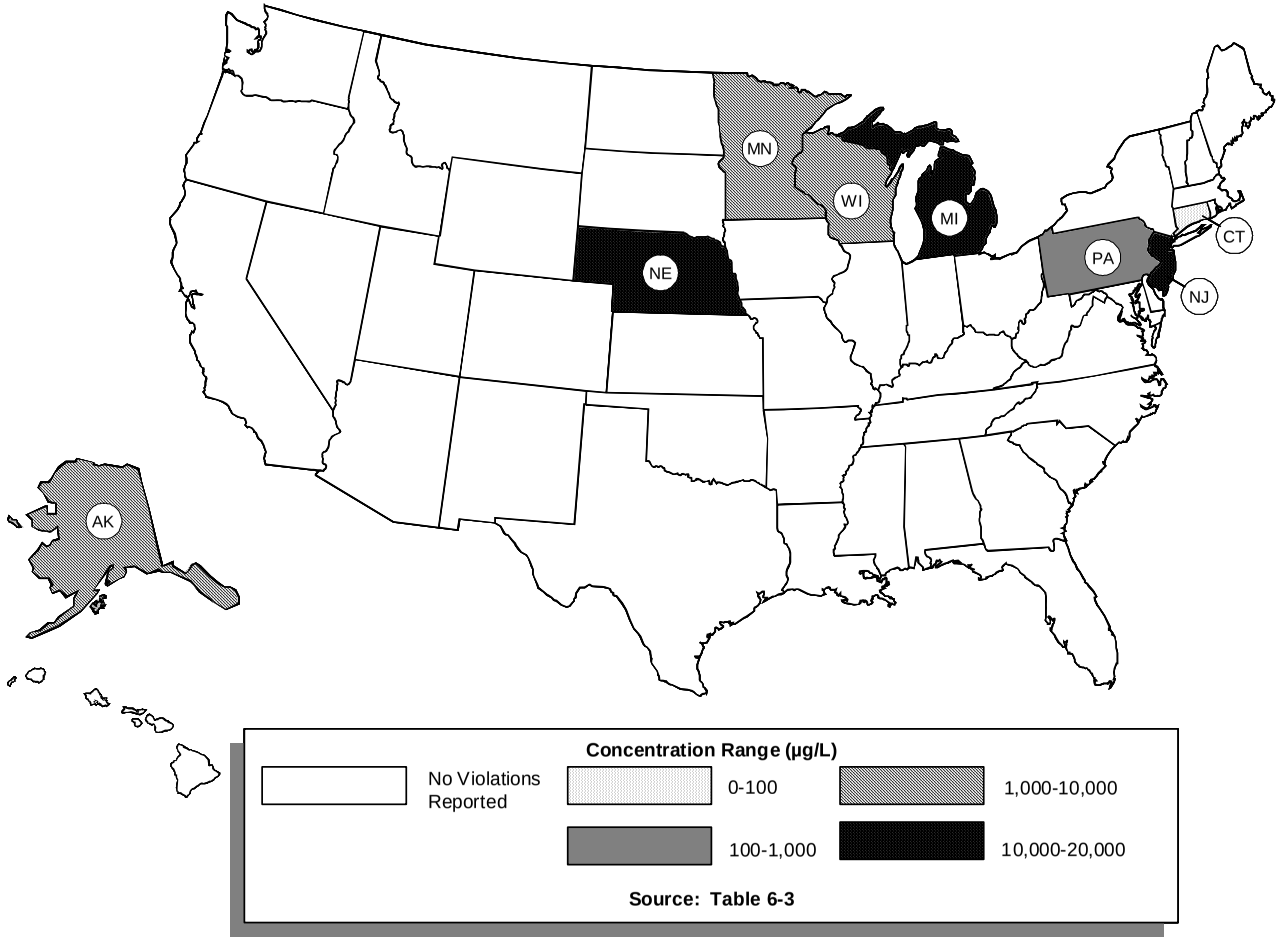
*Violations and ranges are based on both single sample concentrations and averages.
NA – Not applicable
Source: Ref. 6-9

Figure 6-1
Drinking Water Violations for EDB at Groundwater-Supplied Systems as Reported in SDWIS (1993 to 2004)



Note: This map highlights states where EDB was detected at least once in groundwater-supplied drinking water at a concentration greater than the MCL.

Figure 6-2
Drinking Water Violations for EDC at Groundwater-Supplied Systems as Reported in SDWIS (1993 to 2004)



Note: This map highlights states where EDC was detected at least once in groundwater-supplied drinking water at a concentration greater than the MCL.

6.3 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DRINKING WATER DATABASE

The Drinking Water Database maintained by the Florida Department of Environmental Protection contains information on all the PWSs in Florida and is discussed in this report as an example of the types of data that may be available for other states. The "chemical data" search allows database users to query analytical results for several contaminant groups for the years 2001, 2002, and 2003. EDB is included in the "Synthetic Organics" group, and EDC is included in the "Volatile Organics" group. A summary of a database query for EDB and EDC at groundwater-supplied PWSs is presented in Table 6-4. According to this database, the two EDB violations occurred in small systems, serving populations of 40 and 423 people. In addition, 10 of the 14 systems with EDB detections served less than 5,000 people, while the other 4 served more than 17,000 people (Ref. 6-2).

Table 6-4: Summary of EDB and EDC in Florida's Groundwater-Supplied Drinking Water Systems (2001 to 2003)

Contaminant:	EDB	EDC
Number of drinking water systems monitoring the contaminant	2,371	2,919
Number of drinking water systems with detections	14	10
Number of drinking water systems with concentrations above the MCL	2	0
Concentration range (µg/L)	3.8 – 272*	0.1 – 0.5

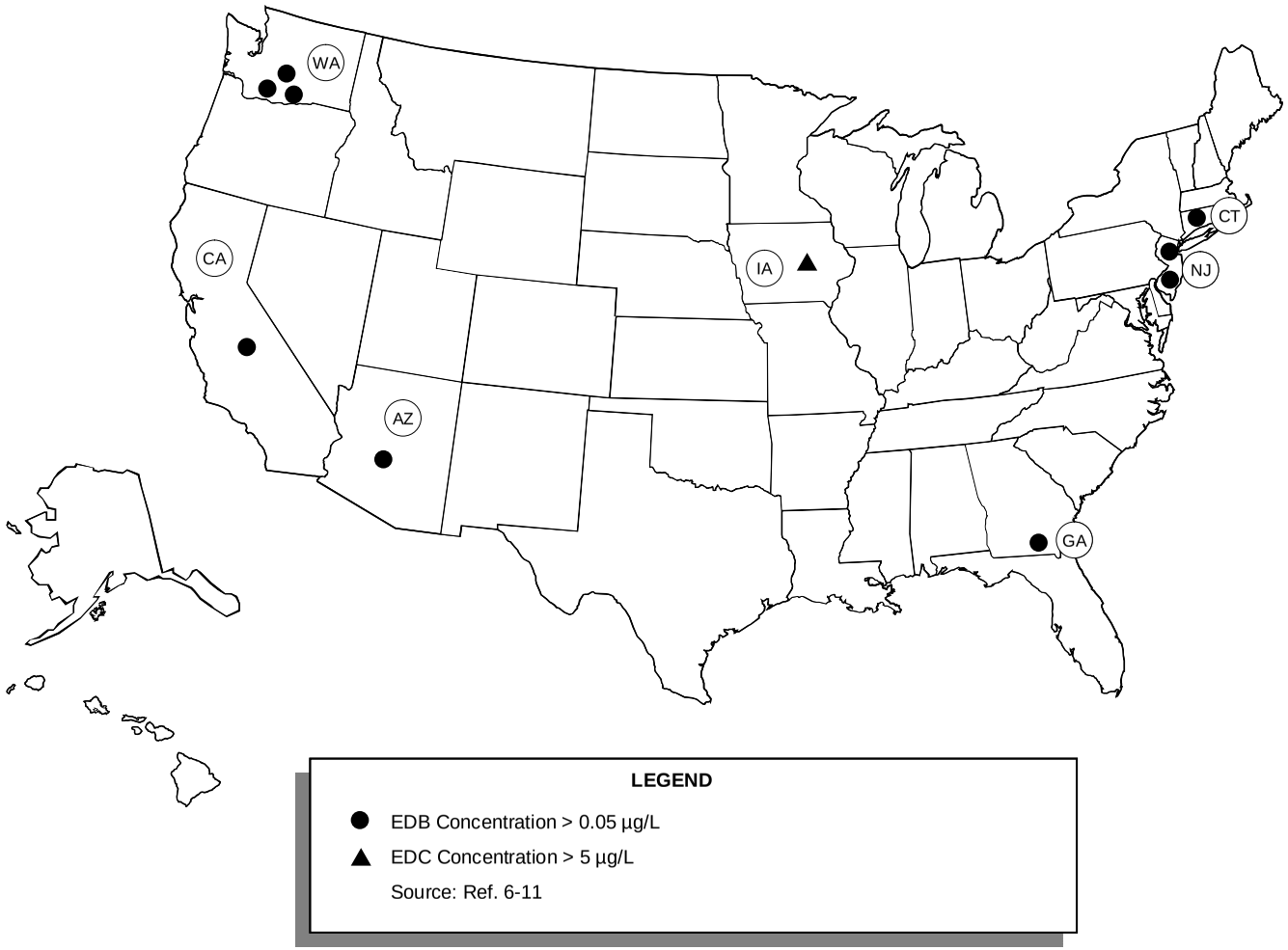
* EDB concentration data obtained from the Florida Department of Environmental Protection Drinking Water Database were not equal to the concentration data provided by U.S. EPA (Ref. 6-9). Data from Florida database indicated EDB concentration range to be 0.0038 to 0.272 µg/L. Data from U.S. EPA, Office of Water indicated EDB concentration range to be 3.8 to 272.0 µg/L. EPA data were confirmed correct and are included as the concentration range above.
Source: Ref. 6-2

6.4 USGS NATIONAL WATER QUALITY ASSESSMENT DATA WAREHOUSE

USGS implemented the National Water Quality Assessment Program in 1991 to collect data on chemical, biological, and physical water quality parameters at 36 study units across the United States, most of which were in the eastern half of the country. Additional study units have been established in each of the 50 states. Data are now available from 2,800 surface water sites and 5,000 groundwater monitoring wells. Chemical concentrations, groundwater levels, site characteristics, and well information are included in the database system. This system also allows users to select contaminants and concentration ranges to be displayed across a map of a particular EPA region, state, or study unit or the entire United States. Figure 6-3 shows groundwater monitoring locations in the study units where EDB and EDC concentrations exceeded MCLs (Ref. 6-11).

Based on the data, EDB was reported at concentrations above the MCL in six states, and EDC was reported at concentrations above the MCL in one state. These data include groundwater monitoring locations and are not limited to groundwater-supplied drinking water.

Figure 6-3
Summary of USGS Groundwater Monitoring Locations Where EDB and EDC Concentrations Exceeded MCLs (1991-1994)



Additional USGS data are available from the NLM, which operates under the National Institutes of Health, U.S. Department of Health and Human Services. The NLM maintains TOXNET, a cluster of databases that contain information on toxicology, hazardous chemicals, and related topics. Selected USGS data for EDB and EDC are maintained in these databases; these data are not limited to groundwater-supplied drinking water. Between 1985 and 1995, 2,948 wells (both urban and rural drinking water supply wells) were sampled for EDB analysis. EDB was not detected in any of the 406 urban wells but was detected in 8 of the 2,542 rural wells at a median concentration of 0.9 µg/L (Ref. 6-3).

Based on TOXNET, EDC was detected in groundwater samples collected in 13 U.S. cities at an average concentration of 0.2 µg/L. TOXNET also contains information about particular states and areas. For example, TOXNET contains average annual concentrations of EDC in California's public drinking water sources; these concentrations are summarized in Table 6-5 (Ref. 6-3).

Table 6-5: EDC Concentrations in California's Public Drinking Water Sources (1989 to 1992)

Year	Average Annual Concentration (µg/L)
1989	3.43
1990	3.32
1991	3.65
1992	3.86

Source: Ref. 6-3

6.5 EPA STORET

EPA's STORET database contains water quality data collected since January 1999 as well as data collected prior to 1999 that have been properly documented and migrated from an earlier version of the database (Legacy Data Center). Raw biological, chemical, and physical data for surface water and groundwater collected by various sources (federal agencies, states, Indian tribes, volunteer groups, academics, and others) are included; these data are not limited to groundwater-supplied drinking water. Database queries were conducted for EDB and EDC in samples that had "water" as a medium and that were collected from January 1980 through September 2004. The query results are presented in Table 6-6. These results indicate that 57 sites detected EDB at concentrations ranging from 0.012 to 270 µg/L and that 251 sites detected EDC at concentrations ranging from 0.1 to 2,300 µg/L (Ref. 6-10).

6.6 ATSDR HAZDAT DATABASE

The ATSDR HazDat database includes information on releases of hazardous substances at Superfund sites or during emergency events. The "site contaminant query" allows database users to find sites associated with a particular contaminant. Searches were conducted for EDB and EDC concentrations in groundwater samples collected from 1979 to 2003; these data are not

limited to groundwater-supplied drinking water. Table 6-6 summarizes the results of these searches. These results indicate that 41 sites reported EDB concentrations ranging from 0.02 to 4,500,000 µg/L and that 433 sites reported EDC concentrations ranging from 0.1 to 110,000,000 µg/L (Ref. 6-1).

Table 6-6: Summary of EDB and EDC Data in EPA STORET (1980 to 2004) and ATSDR HazDat (1979 to 2003)

Contaminant:	**EDB**		**EDC**	
Data Source:	***EPA STORET***	***ATSDR HazDat***	***EPA STORET***	***ATSDR HazDat***
Number of sites/stations reporting data	1,598	53	2,406	621
Number of sites/stations with concentrations reported as nondetect	1,238	NA	1,762	NA
Number of sites/stations with concentrations reported as "present<quantitative limit"	362	NA	686	NA
Number of sites/stations with detections	57	41	251	433
Concentration ranges (µg/L)	0.012-270	0.02-4,500,000	0.1-2,300	0.1-110,000,000

NA – Not available
Source: Refs. 6-10 and 6-1

6.7 REFERENCES

6-1 Agency for Toxic Substances and Disease Registry (ATSDR). 2004. HazDat Database. Website Accessed on September 12, 2004. On-Line Address: http://www.atsdr.cdc.gov/hazdat.html

6-2 Florida Department of Environmental Protection. 2004. Drinking Water Database. Website Accessed on September 10, 2004. On-Line Address: http://www.dep.state.fl.us/water/drinkingwater/download.htm

6-3 U.S. Department of Health and Human Services. 2004. National Institutes of Health. National Library of Medicines TOXNET. Website Accessed on September 17, 2004. On-Line Address: http://www.toxnet.nlm.nih.gov/

6-4 U.S. Environmental Protection Agency (EPA). 1999. "A Review of Contaminant Occurrence in Public Water Systems." EPA 816-R-99-006. November.

6-5 EPA. 2001. "Occurrence of Unregulated Contaminants in Public Water Systems – A National Summary." EPA 815-P-00-002. June.

6-6 EPA. 2003. "Occurrence Estimation Methodology and Occurrence Findings Report for the Six-Year Review of Existing National Primary Drinking Water Regulations." EPA 815-R-03-006. June.

6-7 EPA. 2004. Consumer Fact Sheet on Ethylene Dichloride. Website Accessed on October 5, 2004. On-Line Address: http://www.epa.gov/safewater/contaminants/dw_contamfs/12-dichl.html

6-8 EPA. 2004. Consumer Fact Sheet on Ethylene Dibromide. Website Accessed on October 5, 2004. On-Line Address: http://www.epa.gov/safewater/contaminants/dw_contamfs/ethylene.html

6-9 EPA. 2004. Safe Drinking Water Information System. On-Line Address: http://www.epa.gov/safewater/data/pivottables.html.

6-10 EPA. 2004. STORET. Website Accessed on September 10, 2004. On-Line Address: http://www.epa.gov/storet/dbtop.html

6-11 U.S. Geological Survey (USGS). 1999. National Water Quality Data Assessment Warehouse. Website Accessed on September 17, 2004. On-Line Address: http://infotrek.er.usgs.gov/servlet/page?_pageid=543&_dad=portal30&_schema=PORTAL30

7.0 PRESENCE AT LUST SITES

PRINCIPAL FINDINGS

- Few states require sampling for EDB at sites where EDB may be present, such as LUST sites or sites contaminated with petroleum products
- At seven sites in Kansas, EDB concentrations ranged from not detected to 8,200 µg/L. Five sites reported EDB concentrations above the MCL
- At 31 sites in South Carolina, EDB concentrations ranging from 0.013 to 1,140 µg/L, and each site reported EDB concentrations above the MCL
- Of approximately 7,100 sites in South Carolina that reported petroleum releases from 1974 to 2003, more than 1,200 of these sites reported EDB detections, and nearly 300 had EDB concentrations higher than the MCL .
- At eight LUST sites in Santa Barbara County, California, EDB concentrations ranged from 0.084 to 65 µg/L. Five of the eight sites reported EDB concentrations above the MCL
- No relationship was apparent between the presence of EDB and either EDC, benzene, toluene, ethylbenzene, xylene, methyl tert-butyl ether, or lead.

Available information suggests that only limited data exist relating to the presence of EDB and EDC in groundwater at LUST sites. Three states that indicated that they had readily accessible EDB and EDC data were contacted. These states are Kansas, South Carolina, and Santa Barbara County in California. The data gathered and provided in this section are relevant only to their respective states and cannot be extrapolated to other states.

7.1 MONITORING OF EDB AND EDC BY STATE ENVIRONMENTAL AGENCIES

The Association for Environmental Health and Sciences (AEHS) conducts a bi-annual survey of states' cleanup standards for hydrocarbon-contaminated soil and groundwater and posts the results on their web site (http://aehs.com/surveys.htm). Table 7-1 summarizes this data collected in 2003. Only eight states specified an analytical method or detection limit for EDB, and seven states specified an analytical method or detection limit for EDC. Based on the detection limits presented in Table 7-1, four of them reported detection limits equal to or less than the federal MCL for EDB, and three reported detection limits equal to or less than the federal MCL for EDC.

Table 7-1: Summary of AEHS Survey Data for States' Action/Cleanup Levels for EDB and EDC

State	Type of Product	EDB			EDC		
		EPA Method Number	Method Detection Limit	Action/ Cleanup Level	EPA Method Number	Method Detection Limit	Action/ Cleanup Level
AZ	Petroleum-derived products	601, 504	0.05 µg/L	Not reported	601, 624, 8260B	<5 µg/L	Not reported
DE	Gasoline/ aviation gasoline, jet fuel/kerosene	Not reported	Not reported	0.05 µg/L (screening level)	Not reported	Not reported	0.0094 mg/L (screening level)
FL	Not reported	601, 504, 8011	Not reported	0.02 µg/L	601, 624, 8021, 8260	Not reported	3 µg/L
KS	Gasoline	504, 504.1	0.01 µg/L	0.05 µg/L	8020, 8021, 8240, 8260	0.5 µg/L	5 µg/L
NM	Leaded gasoline and aviation gas	8021, 8260, 504.1	0.01 µg/L	0.1 mg/L	8021, 8260	1.0 µg/L	10 mg/L
OR	Gasoline	SW-846	Not reported	Site specific	SW-846	Not reported	Site specific
PA	Leaded gasoline, aviation gasoline, jet fuel	8011, 504.1	Not reported	0.05 µg/L	5030B/ 8021B, 5030B/ 8260B, 524.2	Not reported	5 µg/L
SC	Gasoline, diesel, kerosene	8011	0.02 µg/L	0.05 µg/L	Not reported	Not reported	Not reported

Source: Ref. 7-6

7.2 SELECTED STATE DATA

State staff from three states (Kansas, South Carolina, and California-Santa Barbara County) provided information for some sites where groundwater samples had been analyzed for the presence of lead scavengers. Also, EPA Region 8 had previously compiled data for federal-lead corrective action sites on tribal land. The information collected for Kansas, South Carolina, Santa Barbara County in California, and EPA Region 8 is summarized in the following sections.

7.2.1 Kansas Department of Health and Environment (KDHE)

Maximum concentrations for various contaminants, including EDB and EDC, were available for LUST sites in Kansas. Of the 170 LUST sites being remediated and for which data were available, only 7 sites reported EDB and EDC data (however, in some cases the analytical results were reported as nondetect [ND]). Additional LUST sites in Kansas monitor for EDB and EDC; however, data was available only for these seven sites. EDB is analyzed using EPA Method 504.1 with a method detection limit of 0.01 µg/L. EPA Methods 8021 and 8260 are used for analysis for EDC, with most sites using Method 8260 with a detection limit of 1 µg/L (although the detection limit has varied based on the concentration in each sample). Maximum concentration ranges of EDB, EDC, and BTEX at these seven sites are summarized in Table 7-2. The data provided for the sites include the maximum concentration of each contaminant for a particular site and monitoring event from 1996 through 2004. Five of the seven sites reported EDB concentrations above the MCL (0.05 µg/L). Additional data from these sites are presented in Appendix A-1. Free product was observed at four sites. Of these seven sites, six are using SVE and air sparging to treat the contamination present, and one is using SVE with product recovery.

Table 7-2: Concentrations of EDB, EDC, and BTEX at Seven Sites in Kansas (1996 to 2004)

	EDB	EDC	BTEX
Concentration ranges (µg/L)	0.05 – 8,200	11 – 1,310	1,736 -175,050

Source: Ref. 7-3

7.2.2 South Carolina Department of Health and Environmental Control (SCDHEC)

SCDHEC provided EDB and BTEX data from 1993 to 2004 for 31 LUST sites being monitored for natural attenuation. These 31 sites had readily accessible data and do not represent all LUST sites in South Carolina. EDB concentrations for the 31 sites ranged from 0.013 to 1,140 µg/L, and each of the 31 sites reported EDB concentrations above the MCL (0.05 µg/L). Additional monitoring data and UST release information for these sites are available in Appendix A-2. Data for the five sites with the highest EDB concentrations are presented in Table 7-3; data are provided only for sites with the highest EDB concentrations (at least one EDB concentration greater than 330 µg/L).

Table 7-3: Summary of Analytical Data for South Carolina LUST Sites with Highest EDB Concentrations

UST Permit No.	No. of Wells	No. of Wells with EDB Concentrations	Contaminant Concentration (µg/L)				
			EDB	Benzene	Toluene	Ethylbenzene	Xylenes
08484	10	4	0.45-1,140	23,000 (max)	36,000 (max)	14,400 (max)	99,000 (max)
18523	8	1	450-890	10,000 (max)	44,000 (max)	5,900 (max)	33,000 (max)
17641	14	6	0.3-731	9,250 (max)	9,900 (max)	3,800 (max)	32,000 (max)
15656	19	4	0.077-330	5-2,030	36-3,100	64-2,500	101-15,000
11369	13	2	0.58-463	11-9200	47-32,000	61-3,400	320-20,300

Source: Ref. 7-4

Only 3 of the 31 sites reported EDC data, and one of those sites did not report any EDC detections. The two sites with EDC detections had concentrations ranging from 49 to 840 µg/L. EDB concentrations at these two sites ranged from 0.27 to 41 µg/L.

7.2.3 South Carolina Data Provided by Dr. Falta of Clemson University

Additional data for South Carolina were obtained from Dr. Ron Falta of Clemson University. Ms. Nimeesha Bulsara, a graduate student under the guidance of Dr. Falta, gathered data about EDB in South Carolina. Approximately 19,000 UST sites are located in South Carolina, and nearly 7,100 of them reported petroleum releases from 1974 to 2003. Data from these 7,100 sites are summarized in Table 7-4. The data reported for these sites include maximum values for each contaminant during the most recent monitoring event.

Table 7-4: Summary of South Carolina UST Site Data (1974 to 2003)

EDB concentrations	1,230
Non-zero EDB concentrations	366
EDB concentrations equal to or greater than MCL (0.05 µg/L)	282
Range of EDB concentrations (µg/L)	0.01 – 6,550

Source: Ref. 7-2

7.2.4 Santa Barbara County (California) Data Available from California Environmental Protection Agency, State Water Resources Control Board

Groundwater monitoring data are available through California's "Geotracker" website at https://geotracker.swrcb.ca.gov/, where specific contaminant data for each county can be downloaded. Eight LUST sites in Santa Barbara County were identified that have numerical

values for EDB concentrations (as opposed to ND) from 2001 to 2004. Five of the eight sites reported EDB concentrations above the MCL (0.05 µg/L). The other three sites did not clearly indicate if EDB concentrations exceeded the MCL. Seventeen additional sites reported EDB as ND. Additional information, such as site geology, release history, and remediation information, was not available for any sites with EDB data. Additional EDB data for these sites are provided in Appendix A-3. A summary of the data is presented below.

- The highest and lowest concentrations reported for EDB were 65 and 0.084 µg/L, respectively. However, concentrations reported for EDB ranged from ND to <100 µg/L.
- The highest and lowest concentrations reported for EDC were 101 and 0.4 µg/L, respectively. However, some results were reported as ND.
- Two sites that have EDB concentrations (3.3 and 65 µg/L) did not detect EDC in the same wells where the EDB was found.
- The site with the highest EDC concentration (101 µg/L) reported EDB values of 1.04 µg/L and ND for the well where the EDC was found.

7.2.5 EPA Region 8 – Federal-lead Corrective Action Sites on Tribal Land

Eight sites in EPA Region 8 have data for EDB and EDC from 2004. These sites are all federal-lead corrective action sites on tribal land. USTs at these sites were installed as long ago as 1926 and have been closed as recently as 1999. Two of the eight sites (both in South Dakota) reported EDB concentrations at or above the MCL ranging from 0.05 to 0.09 µg/L. The other six sites reported EDB concentrations less than the MCL (0.05 µg/L). Five sites had EDC concentrations ranging between 1.0 and 13.1 µg/L, with four of these sites having concentrations above the MCL (5 µg/L). Additional data for these sites are provided in Appendix A-4.

7.3 DATA ANALYSIS

The data collected for South Carolina and Santa Barbara County in California were evaluated, and an attempt was made to find potential correlations between EDB and other contaminant concentrations. Based on the limited information available, no relationship between EDB, EDC, benzene, MTBE, and lead concentrations could be identified at the South Carolina and Santa Barbara County sites. Table 7-5 summarizes the evaluation performed.

Table 7-5: Summary of Data Available

State (and Source of Data)	Contaminants	Sample Data
South Carolina (Department of Health and Environmental Control)	EDB, EDC, MTBE	see Appendix A-5
South Carolina (Clemson University)	EDB, benzene, MTBE, lead	see Appendix A-6
California (Santa Barbara County)	EDB, EDC, MTBE	see Appendix A-5

7.4 REFERENCES

7-1 State Water Resources Control Board. 2004. Analytical Data for Sites in California. Accessed on August 26, 2004. On-Line Address: https://geotracker.swrcb.ca.gov/ (also see Appendix A-3)

7-2 Clemson University. 2004. Data for Underground Storage Tank Sites in South Carolina. (also see Appendix A-6)

7-3 Kansas Department of Health and Environment (KDHE). 2004. Analytical Data for Sites in Kansas. (also see Appendix A-1)

7-4 South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical Data for Sites in South Carolina. (also see Appendices A-2 and A-5)

7-5 EPA, 2004. Analytical Data for Region 8 Federal-Lead Corrective Action Leaking Underground Storage Tank Sites. (also see Appendix A-4)

7-6 Association for Environmental Health and Sciences (AEHS). 2003. State Summary of Cleanup Standards. Accessed on July 6, 2005. http://aehs.com/surveys.htm

7-7 Delaware Department of Natural Resources and Environmental Control (DNREC). 2005.

LIST OF APPENDICES

Appendix No.	Title	Figure No.	Data Source	Number of Data Points	Type of Monitoring Data
A-1	Kansas EDB and EDC Data (1996-2004)	None	Kansas Department of Health and Environment (Ref. 7-3)	29	Each data point represents the maximum contaminant concentration for each site during a particular monitoring event.
A-2	South Carolina EDB and EDC Data (1993-2004)	None	South Carolina Department of Health and Environmental Control (Ref. 7-4)	1,630	Each data point represents an individual groundwater monitoring sample collected from a particular well on a specific date.
A-3	Santa Barbara County, California, EDB and EDC Data (2001-2004)	None	California's Geotracker website (Ref. 7-1)	17	Each data point represents an individual groundwater monitoring sample collected from a particular well on a specific date.
A-4	EPA Region 8 Federal-Lead Corrective Action Site EDB and EDC Data (2004)	None	EPA Region 8 (Ref. 7-5)	21	Not specified
A-5	Groundwater Monitoring Results for South Carolina and Santa Barbara County, California	1 to 7	South Carolina Department of Health and Environmental Control (Ref. 7-4) and California's Geotracker website (Ref. 7-1)	163	Each data point represents an individual groundwater monitoring sample collected from a particular well on a specific date.
A-6	Groundwater Monitoring Results for South Carolina	1 to 12	Clemson University (Ref. 7-2)	750	Each data point represents the maximum concentration for each contaminant during the most recent monitoring event (fall 2003 or spring 2004).

8.0 REMEDIATION AND TREATMENT TECHNOLOGIES

PRINCIPAL FINDINGS

- The most common treatment technologies for EDB are air sparging, soil vapor extraction (SVE), and groundwater pump and treat with granular activated carbon
- 31 LUST sites in South Carolina are using MNA to address EDB and other contaminants
- Seven LUST sites in Kansas are using SVE in combination with air sparging or free product recovery to remediate EDB and other contaminants
- Costs for the corrective actions at the seven LUST sites in Kansas ranged from approximately $70,000 to $204,000.

Soil and groundwater contaminated with EDB and EDC have been treated at both Superfund and non-Superfund sites. This section focuses primarily on summarizing information about treatment of EDB contamination. In addition, because information is more readily available for treatment technology use at Superfund sites, this report focuses more on Superfund sites than non-Superfund sites.

To gather information about treatment technologies for EDB and EDC contamination, the following sources were reviewed:

- "Treatment Technologies for Site Cleanup: Annual Status Report, Eleventh Edition" (ASR) – http://cluin.org/asr (Ref. 8-9)
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) – http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm (Ref. 8-10)
- Federal Remediation Technologies Roundtable, Cost and Performance Case Studies – http://www.frtr.gov/costperf.htm (Ref. 8-2)
- State data from Kansas and South Carolina (see Section 7.0) (Refs. 8-3, 8-4)

8.1 TREATMENT TECHNOLOGIES FOR EDB CONTAMINATION

The treatment technologies most commonly used for EDB contamination are air sparging, SVE, and pump and treat (P&T) with granular activated carbon. The following sections provide site-specific information about the treatment of EDB contamination.

8.1.1 Superfund Sites

The ASR includes information about remedial technologies used at final and deleted National Priorities List (NPL) or "Superfund" sites. Based on the ASR, four Superfund sites are treating or have treated EDB contamination using remedial technologies. Site information and remedial technologies used at the sites for treatment of EDB contamination are summarized in Table 8-1.

The projects have included source control and groundwater treatment as well as the use of in situ and ex situ treatment technologies. The remedies were selected in the Records of Decision (ROD) for the sites from 1988 to 1999. Contamination at these sites resulted from fuel-related activities or agricultural chemical applications. The sites are discussed in more detail below.

Table 8-1: Treatment of EDB Contamination at Superfund Sites (1988 to 2003)

Site Name, State	Site Type	Contaminants	Technology	Status
Otis Air National Guard Base, Fuel Spill 12, MA	Petroleum, Oil, and Lubricant (POL) Line	BTEX, EDB	P&T	Operational
		BTEX, EDB	Air sparging	Completed
		BTEX, EDB	SVE	Completed
T.H. Agriculture and Nutrition Site, GA	Pesticide Manufacturing, Use, and Storage	Aldrin, beta-hexachlorocyclohexane (BHC), dichlorodiphenyl-trichloroethane (DDT), dieldrin, lindane, toxaphene, xylene, EDB, pesticides	P&T	Operational
Hastings Groundwater Contamination Site, NE	Agricultural Applications	Carbon tetrachloride, EDB	SVE	Completed
			P&T	Operational
Fort Wainwright, AK	Aboveground Storage Tank, Drum Storage and Disposal, Dry Cleaners, POL Line, Spill, Underground Storage Tank, and Vehicle Maintenance	EDC, benzene, EDB, gasoline, toluene, trichloroethene	Air sparging	Operational
			SVE	Operational

Source: Ref. 8-9

One additional site, the Bangor Naval Submarine Base in Washington, is analyzing groundwater for EDB contamination as part of a remedy using monitored natural attenuation (MNA). If MNA does not achieve the remedial goals, a contingent remedy such as enhanced bioremediation or P&T may be conducted at this site (Ref. 8-9).

According to EPA's Superfund database (CERCLIS), three additional Superfund sites have reported EDB as a contaminant of concern: Lawrence Livermore National Laboratory, Brown & Bryant Inc., and Lowry Landfill (Ref. 8-10). Projects addressing EDB at these sites are not currently included in the ASR, and information was not readily available (Ref. 8-9). Additional information on the sites from Table 8-1 is provided below.

Otis Air National Guard Base

At the Otis Air National Guard Base in Massachusetts, a pipeline carrying jet fuel and aviation gasoline since 1965 leaked in 1972. Nearly 70,000 gallons of aviation fuel were released into the soil. The area of soil contamination came to be known as Fuel Spill 12. Groundwater contamination was first discovered in 1990 when the nearby water district detected hydrocarbon odors in two exploratory wells installed off base. The contaminants were identified as BTEX and EDB. In 1993, the source area was defined as being approximately 11 acres in size. The petroleum contamination in subsurface soil was estimated to be present in a 10- to 20-foot layer above the water table. The leak resulted in a contaminant plume that was about 4,800 feet long; a maximum of 2,000 feet wide; 60 to 130 feet thick; and more than 90 feet below the ground surface. The plume had a maximum EDB concentration of 600 µg/L (Ref. 8-1).

Air sparging and SVE were selected in a 1996 action memorandum to treat petroleum-derived hydrocarbon contamination in the soil. The objective of the removal action was to prevent migration of benzene and EDB from soil to groundwater. The cleanup standards for EDB were based on Massachusetts Method 1 Cleanup Standards of 0.005 mg/kg for soil and the state MCL of 0.02 µg/L for groundwater. The air sparging and SVE system operated from October 23, 1995 to February 25, 1998 when monitoring revealed that soil and groundwater concentrations of EDB were below the cleanup standards. During system operation, compressed air was injected into the subsurface through 23 air sparging wells and withdrawn through 23 SVE wells. Oxygen in the air stimulated bioremediation in the subsurface. The SVE system thermally destroyed BTEX using catalytic oxidation. Because EDB is not readily removed by thermal oxidation and to prevent a release of EDB to air, gases from the catalytic oxidation unit were passed through a carbon adsorption unit. From October 1995 to February 1998, approximately 45,000 pounds of BTEX and EDB were removed and treated (Refs. 8-1 and 8-9).

In addition to air sparging and SVE, P&T was selected to address deeper groundwater contamination. The 1995 interim ROD, which selected P&T as a remedy, set the cleanup goal for EDB in groundwater at 0.02 µg/L based on the state MCL. The P&T system includes 25 extraction wells and 23 reinjection wells. The P&T system started operating in September 1997 and treats over 1 million gallons of groundwater per day. Extracted groundwater is treated using granular activated carbon to remove organic contamination. The system originally included ultraviolet (UV) oxidation in addition to the granular activated carbon. However, in November 1997, the UV oxidation unit was taken off line because concentrations of organic compounds (including EDB) were not high enough to warrant its use. A system modification performed in December 2000 included converting an existing reinjection well into an extraction well to remove zones of EDB contamination west of the main plume. The total flow rate of the system is 688 gallons per minute. From September 1997 to December 2001, 131 pounds of EDB and 270 pounds of benzene were removed from the groundwater. The plume's size has decreased significantly, and it is estimated that 97 percent of both the benzene and EDB has been removed. Based on May 2002 sampling results, EDB concentrations in the source area have been reduced from more than 500 µg/L to less than 20 µg/L since system startup. EDB concentrations in the western area of the site have been reduced from 2.2 ug/L to 0.045 ug/L (Refs. 8-1 and 8-9).

T.H. Agriculture and Nutrition Superfund Site

The 12-acre T.H. Agriculture and Nutrition Superfund site consists of two former pesticide formulation facilities that were used from the 1950s until the 1980s. Removal activities began at the site in 1982. During the remedial investigation and feasibility study for the site, the potentially responsible parties found pesticides and other organic contaminants in soil and groundwater. A pit containing pure pesticide product was also found. The removal action included excavation of contaminated soil, with some soil being treated by low-temperature thermal desorption in 1999. Contaminants of concern at the site include DDT, toxaphene, alpha-BHC, beta-BHC, aldrin, dieldrin, and EDB (Refs. 8-8 and 8-9).

In 1993 and 1996, RODs were issued that selected P&T for Operable Unit (OU) 1 and 2 to address groundwater contamination at the site. The groundwater cleanup standard for EDB is the federal MCL (0.05 µg/L). Construction of the P&T system for OU1 was completed in spring 1997, and the system is expected to operate for at least 20 years. The treatment system consists of a light non-aqueous phase liquid (LNAPL) separator, a microfilter, and granular activated carbon. EDB concentrations ranged from 1.5 to 1,200 µg/L in groundwater samples collected from 1994 through 2001. During a sampling event in 2001, EDB concentrations in the groundwater ranged from nondetect to 600 µg/L. An estimated 480 pounds of contaminants, including 7 pounds of contaminants of concern (such as EDB), have been removed by the system. Approximately 3.5 million gallons of groundwater have been treated. However, after 5 years of system operation, there has been little change in the contaminant concentrations and plume size. LNAPL is still present at the site and is not being captured by the P&T system. Annual operation and maintenance (O&M) costs for this P&T project total about $200,000 (Refs. 8-8 and 8-9).

Limited information is available about the P&T system for groundwater at OU2. This system was constructed in 1999. Soil contamination is still present in the area, and the extent of this soil contamination's impact on groundwater is currently being evaluated (Ref. 8-8).

Hastings Groundwater Contamination Superfund Site

The Far-Mar-Co portion of the Hastings Groundwater Contamination Superfund site stored and handled agricultural products, mostly grains, for more than 30 years. EDB and carbon tetrachloride are the primary contaminants of concern for this OU. A ROD was issued in 1988 that selected SVE to remediate soil contamination at the OU. The volume of contaminated soil to be treated was approximately 34,000 cubic yards (to a depth of 120 feet). SVE was conducted from 1997 until 2002 (2 years after the goals for the OU were met). Annual O&M costs for the SVE system ranged from $40,000 to $186,000 from 1997 through 2002 (Refs. 8-5, 8-7, and 8-9).

In addition, P&T was selected to treat contaminated groundwater at this OU. The maximum EDB concentration found in the groundwater was 220 µg/L. The P&T system processes 450 gallons of groundwater per minute. Since its startup in 1997, the system has treated over 1 billion gallons of groundwater and removed 14 pounds of EDB (Ref. 8-7).

Fort Wainwright

The West Quartermaster's Fueling System (WQFS) area at Fort Wainwright is divided into four subareas (WQFS 1 through 4). This summary focuses on the remedial actions at WQFS-1. Vehicle maintenance activities, spills, and leaks from former fuel storage facilities are the primary sources of petroleum contamination in the subarea. Soil and groundwater samples collected in this subarea contained diesel range organic, gasoline range organic, solvent, and benzene contamination. According to the 5-year review report issued in 2001, EDB had recently been detected at concentrations exceeding remedial action objectives in groundwater samples collected at WQFS-1. EDB had not been detected in this subarea at the time of the ROD's issuance. Monitoring for EDB will be incorporated into the long-term management plan for the subarea (Refs. 8-6 and 8-9).

A treatability study was begun in spring 1997 that involved use of a horizontal well air sparging/SVE system. This system was expanded by adding vertical probes in summer 1998. The system removed over 227,000 pounds of VOCs in 2000 and had a thermal/catalytic oxidizer efficiency of 99.5 percent. A second air sparging/SVE system was selected for a remedial action in a 1999 ROD. The contaminant plume to be addressed by this system was approximately 7.5 acres in size, and the groundwater depth ranged from 12 to 18 feet below ground surface. The system began operating in August 1999 and removed 43,000 pounds of VOCs during its first 2 years of operation. Soil heating (using six-phase heating and radio frequency heating) to enhance this system was evaluated in 1999 but was not found to be cost-effective. In 2000, all abandoned, buried fuel lines at WQFS-1 were purged and capped (Refs. 8-6 and 8-9).

8.1.2 Additional Sites Addressing EDB

Data provided by SC DHEC included thirty-one LUST sites in South Carolina that are using MNA to address EDB as well as other contaminants. Information about remedial performance was not available for these sites (Ref. 8-4).

Data obtained from KDHE for seven LUST sites indicated SVE in combination with air sparging or product recovery was being used to treat EDB and other contaminants (Ref. 8-3). Six of these seven sites are using SVE and air sparging to treat the contamination present, and one site is using SVE with product recovery. Costs for the corrective actions at these seven sites range from approximately $70,000 to $204,000. A summary of total treatment costs for these sites is presented in Table 8-2. The costs are for the treatment of various contaminants present at the sites and are not for EDB alone. Based on the source documents, the volumes of soil treated and the treatment performance at these 7 LUST sites are not available (Ref. 8-3).

Table 8-2: Treatment Costs at Seven LUST Sites in Kansas

Site ID No.	Technology (No. of wells)	Corrective Action Cost ($)	O&M Cost ($)
U1 086 0910	SVE (5) and AS (3)	91,420	60,000
U2 087 0288	SVE (3) and AS (9)	79,813	18,000
U2 087 13363	SVE (3) and AS (10)	80,960	27,213
U2 078 01344	SVE (2) and AS (3)	82,329	38,000
U6 091 221	SVE (12) and AS (4)	203,902	48,400
U6 020 628	SVE (5) and AS (3)	68,372	52,800
U6 083 194	SVE (16) and PR (3)	985,200	240,000

Source: Ref. 8-3

Notes:
AS: Air sparging
O&M: Operation and maintenance
PR: Product recovery
SVE: Soil vapor extraction

One Federal Remediation Technologies Roundtable (FRTR) case study was identified that describes remediation of EDB contamination. According to this case study, the Campbell Street Fuel Farm site at the Marine Corps Air Station, Camp Lejeune, in North Carolina is using groundwater P&T with granular activated carbon to treat EDB. The P&T system was implemented in 1996 and continues to operate. The maximum EDB concentration in groundwater between December 1996 and March 1999 was 3.5 µg/L, while the cleanup level for EDB is 0.004 µg/L. The P&T system removed little cumulative contaminant mass during this period (less than 3.5 pounds over 2.5 years), and there is little evidence that the system is contributing significantly to the restoration of the aquifer. Active remediation may be discontinued at the Campbell Street Fuel Farm, because only low levels of contaminants are currently being recovered and no source materials remain at the site (Ref. 8-2).

8.2 TREATMENT TECHNOLOGIES FOR EDC CONTAMINATION

According to data in the ASR, remediation of EDC contamination is more common than EDB-related remediation. A total of 70 Superfund sites have performed or are performing treatment of EDC contamination. Table 8-3 lists the technologies used to address EDC at these sites. Note that some sites have more than one technology. The projects involve both source control and groundwater treatment as well as in situ and ex situ treatment technologies. These remedies were selected in RODs issued from 1985 to 2002. Additional information about the sites and remedies is presented in Appendix B (Ref. 8-9).

Table 8-3: Summary of EDC Contamination Treatment at Superfund Sites (1985 to 2002)

Technology	Number of Superfund Projects
P&T (treatment not specified)	33
P&T (with air stripping)	12
Air sparging	10
SVE	8
Bioremediation (in situ)	5
Multiphase extraction	3
Chemical treatment	2
Bioremediation (ex situ)	1
Flushing	1
Incineration	1
Phytoremediation	1
P&T (with carbon absorption)	1
Thermal desorption	1
Thermally enhanced recovery	1
TOTAL	**80**

Notes:
Some sites use more than one treatment technology.
P&T: Pump and treat
SVE: Soil vapor extraction
Source: Ref. 8-9

8.3 REFERENCES

8-1 Air Force Center for Environmental Excellence/Massachusetts Military Reservation (MMR). 2003. "Second Five-Year Review (1998-2002). MMR Superfund Site, Otis Air National Guard Base, Massachusetts." Accessed on September 2, 2004. On-Line Address: http://www.mmr.org

8-2 Federal Remediation Technologies Roundtable (FRTR). 2004. Remediation Case Study Searchable Database. Website Accessed on August 31, 2004. On-Line Address: http://www.frtr.gov/costperf.htm

8-3 Kansas Department of Health and Environment (KDHE). 2004. Analytical Data for Sites in Kansas. (see Appendix A-1)

8-4 South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical Data for Sites in South Carolina. (see Appendices A-2 and A-3)

8-5 U.S. Environmental Protection Agency (EPA). 1988. "Record of Decision. Hastings Groundwater Contamination, Hastings, Nebraska." September 28.

8-6 EPA. 2001. "Five-Year Review. Fort Wainwright, Alaska." September 25.

8-7 EPA. 2002. "Five-Year Review. Hastings Groundwater Contamination, Hastings, Nebraska." July.

8-8 EPA. 2003. "Five-Year Review. T.H. Agriculture, Albany, Georgia." March.

8-9 EPA. 2004. "Treatment Technologies for Site Cleanup: Annual Status Report, Eleventh Edition." EPA-542-R-03-009. Accessed on August 31, 2004. On-Line Address: http://cfpub.epa.gov/asr/search.cfm

8-10 EPA. 2004. Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). Website Accessed on August 31, 2004. On-Line Address: http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm

Appendices

Appendix A-1: Kansas EDB and EDC Data (1996-2004)
All concentrations are in ug/L

State Case Number	Sample Date	Benzene	Xylenes	EDB	EDC	MTBE
U1 086 0910	1/1/2000	11,200 FP	55,000 FP	400	1,310 FP	69,100 FP
U1 086 0910	6/1/2001	FP	FP	1,460	NP	FP
U1 086 0910	7/1/2002	NP	NP	300	NP	NP
U1 086 0910	11/1/2002	FP	FP	NP	1,110 FP	FP
U2 078 01344	8/1/1999	4,750	100,000	NP	NP	3,580
U2 078 01344	9/1/2000	2,840	23,300	ND	ND	211
U2 078 01344	9/1/2002	39	868	ND	ND	ND
U2 078 01344	12/1/2003	20	1,240	ND	ND	ND
U2 087 0288	11/1/2000	3,670	20,815	4.79	<50	2,770
U2 087 0288	11/1/2001	1,840	7,350	0.24	<50	42.7
U2 087 0288	10/1/2002	1,820	4,230	<0.2	<20	10.2
U2 087 0288	2/1/2004	860	7,620	0.05	13	1.7
U2 087 13363	1/1/2004	3,920	16,600	tame 190	NP	93,000
U2 087 13363	1/1/2004	FP-5	FP-5	8,200	ND	FP-5
U6 020 628	4/1/1996	18,700	11,240	1,080	547	127
U6 020 628	5/1/2001	1,230	5,050	<20	276	47.8
U6 020 628	2/1/2002	260	3,200	<250	150	<250
U6 020 628	11/1/2002	130	2,600	<100	93	<100
U6 020 628	1/1/2004	279	5,090	<100	30	<100
U6 083 194	1/1/1997	FP	FP	ND	ND	191,000
U6 083 194	10/1/2000	13,800	8,690	NP	NP	99,800
U6 083 194	11/1/2001	6,900	4,200	NP	NP	49,000
U6 083 194	7/1/2002	11,000	3,600	NP	NP	25,000
U6 083 194	1/1/2004	8,000	9,200	ND	ND	20,000
U6 091 221	2/1/1999	2,250 FP	445 FP	46	98	5.32 FP
U6 091 221	3/1/2001	3,645	3,280	32	158	ND
U6 091 221	12/1/2001	2,500	2,000	NA	71	ND
U6 091 221	9/1/2002	2,200 FP	1,840 FP	NA	NA	<5 FP
U6 091 221	1/1/2004	1,290	1,370	31	11	ND<10

FP = Floating product present during sampling event
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-3

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-1	4/7/1997	417	325	139	831	NP	NP	1,020
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-1	1/29/2001	17	48	7	168	1.53	NP	969
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-1	5/3/2001	21	196	11	162	1.14	NP	1,980
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-1	7/25/2001	19	33	20	208	4.33	NP	1,410
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-1	1/16/2002	135	1,080	185	1,650	2.09	NP	1,020
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-1	3/19/2002	14	167	14	177	0.89	NP	1,060
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-2	1/29/2001	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-2	5/3/2001	<1	<1	<1	<1	<.02	NP	<1
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-2	3/19/2002	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-3	1/29/2001	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-3	5/3/2001	<1	<1	<1	<1	<.02	NP	<1
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-3	3/19/2002	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-4	1/29/2001	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-4	5/3/2001	<1	<1	<1	<1	<.02	NP	<1
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-4	3/19/2002	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-5	1/29/2001	<1	<1	<1	<1	<.02	NP	26
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-5	3/19/2002	<1	<1	<1	<1	<.02	NP	12
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-6	1/29/2001	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-6	5/3/2001	<1	<1	<1	<1	<.02	NP	<1
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-6	7/25/2001	<2	<2	<2	<2	<.02	NP	<2
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-6	1/16/2002	<2	3	<2	6	<.02	NP	<2
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-6	3/19/2002	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-7	1/29/2001	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-7	5/3/2001	<1	<1	<1	<1	<.02	NP	<1
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-7	3/19/2002	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-8D	1/29/2001	<10	304	114	1,280	.75	NP	<50
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-8D	5/3/2001	10	255	100	1,040	<.02	NP	12
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-8D	7/25/2001	9	199	73	733	<.02	NP	34
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-8D	1/16/2002	8	122	38	397	<.02	NP	46
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-8D	3/19/2002	4	70	24	248	<.02	NP	21
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-9	1/29/2001	<1	<1	<1	<1	<.02	NP	<5
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-9	5/3/2001	<1	<1	<1	<1	<.02	NP	<1
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-9	7/25/2001	<2	<2	<2	<2	<.02	NP	<2
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-9	1/16/2002	<2	4	<2	7	<.02	NP	<2
Baton Rouge Grocery, UST Permit #11705	Release was reported on June 25, 1993. Two USTs were removed in June 1993.	MW-9	3/19/2002	<1	<1	<1	<1	<.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	DW-1	2/18/1999	6.4	367	15.9	177	NA	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	DW-1	5/24/2004	1.9	88	5.5	38	<0.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	MW-1	2/18/1999	256	1.1	127	13.4	BDL	NP	0.72
Bluff Rd Site	Release was reported on November 22, 1991.	MW-1	5/24/2004	63	<5	150	78.8	<0.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	MW-10	2/18/1999	BDL	26.9	2	10.8	NA	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-10	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	MW-11	2/18/1999	2510	4680	1170	4680	NA	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-11	5/24/2004	2600	3500	1400	4700	0.93	NP	<50
Bluff Rd Site	Release was reported on November 22, 1991.	MW-12	2/18/1999	460	9360	1040	5480	NA	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-12	5/24/2004	170	2500	560	1570	0.21	NP	<50
Bluff Rd Site	Release was reported on November 22, 1991.	MW-2	2/18/1999	BDL	BDL	BDL	BDL	NA	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-2	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	MW-4	2/18/1999	22.7	2670	401	1490	BDL	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-4	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	MW-5	2/18/1999	1260	23600	1,240	6280	4.4	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-5	5/24/2004	370	8200	850	4000	0.13	NP	<100
Bluff Rd Site	Release was reported on November 22, 1991.	MW-6	2/18/1999	BDL	BDL	BDL	BDL	NA	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-6	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	MW-7	2/18/1999	BDL	13.5	1.2	5.5	NA	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-7	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Bluff Rd Site	Release was reported on November 22, 1991.	MW-8	2/18/1999	145	6020	690	2810	BDL	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-8	5/24/2004	120	25	350	494	<0.02	NP	<25
Bluff Rd Site	Release was reported on November 22, 1991.	MW-9	2/18/1999	1540	43700	1660	8330	1.7	NP	BDL
Bluff Rd Site	Release was reported on November 22, 1991.	MW-9	5/24/2004	580	20000	2300	10700	0.13	NP	<100
Bluff Rd Site	Release was reported on November 22, 1991.	TW-1	2/18/1999	BDL	BDL	BDL	BDL	NA	NP	BDL
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-1	11/11/1997	300,000	280,000	67,300	801,000	NP	NP	703
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-1	1/17/2000	23,000	17,000	1,900	9,600	14	NP	450
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-1	8/28/2001	19,400	16,900	2,000	8,400	66.3	NP	600

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-1	7/31/2003	27,000	9,700	1,000	4,100	24	NP	970
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-10	1/17/2000	<5	<5	<5	<5	NP	NP	52
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-10	8/28/2001	<1	<1	<1	<1	<.02	NP	<1
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-10	7/31/2003	<5	<5	<5	<15	<.02	NP	80
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-2	11/11/1997	3,490	1,680	64	453	NP	NP	50
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-2	1/17/2000	840	75	19	75	NP	NP	21
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-2	8/28/2001	24	3	<1	3	<.02	NP	9
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-2	7/31/2003	3	<5	<5	<15	<.02	NP	15
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-3	11/11/1997	22	15	<5	22	NP	NP	<5
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-3	1/17/2000	13	14	<5	<5	NP	NP	120
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-3	8/28/2001	<1	<1	<1	<1	<.02	NP	201
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-3	7/31/2003	<5	<5	<5	<15	<.02	NP	270
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-4	1/17/2000	<5	6	<5	<5	NP	NP	<5
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-4	8/28/2001	<1	<1	<1	<1	<.02	NP	<1
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-4	7/31/2003	<5	<5	<5	<15	<.02	NP	13
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-5	1/17/2000	<5	<5	<5	<5	NP	NP	<5
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-5	8/28/2001	<1	<1	<1	<1	<.02	NP	<1
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-5	7/31/2003	<5	<5	<5	<15	<.02	NP	<5
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-6	1/17/2000	1,400	28	77	72	NP	NP	<5
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-6	8/28/2001	320	380	40	190	.56	NP	<10
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-6	7/31/2003	11	50	4	58	<.02	NP	<5
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-7	1/17/2000	<5	<5	<5	<5	NP	NP	20
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-7	8/28/2001	<1	<1	<1	<1	<.02	NP	<1
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-7	7/31/2003	<5	4	<5	<15	<.02	NP	3
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-8	1/17/2000	<5	<5	<5	<5	NP	NP	50
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-8	8/28/2001	<1	<1	<1	<1	<.02	NP	<1
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-8	7/31/2003	<5	<5	<5	<15	<.02	NP	52
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-9D	1/17/2000	520	2,000	480	5,400	8.9	NP	14
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-9D	8/28/2001	55	51	2	117	.53	NP	51
Bowers BP, UST Permit #06572	Release was reported on January 12, 1993.	MW-9D	7/31/2003	<5	<5	<5	<15	<.02	NP	96
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	DW-1	1/20/2004	2,290	19,800	1,390	4,650	9.6	NP	179
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	DW-1	5/24/2004	2,800	9,700	1,700	4,800	35	NP	<50
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	DW-2	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	DW-2	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-1	6/25/2001	6,370	131,000	6,650	28,600	1.51	NP	2,350
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-1	8/16/2001	3,400	94,000	2,300	12,000	9.2	NP	1,100
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-1	1/20/2004	4,890	110,000	3,350	14,700	4.5	NP	7,200
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-1	5/24/2004	4,700	100,000	3,200	14,200	14	NP	6,300
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-10	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-10	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-11	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-11	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-12	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-12	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-13	1/20/2004	331	1	178	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-13	5/24/2004	1,200	<50	1,300	<150	<0.02	NP	<50
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-14	1/20/2004	6	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-14	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-15	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-15	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-16	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-16	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-17	1/20/2004	24	4	118	193	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-17	5/24/2004	6	<5	7	25	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-18	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-18	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-2	8/16/2001	<1	<5	<1	<3	.06	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-2	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-2	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-3	8/16/2001	<1	<5	<1	<3	<0.02	NP	2
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-3	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-3	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-4	8/16/2001	<5	<25	32	98	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-4	1/20/2004	2	11	202	244	<0.02	NP	1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-4	5/24/2004	3	15	440	600	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-5	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-5	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-6	1/20/2004	205	248	423	1,080	1.3	NP	7
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-6	5/24/2004	350	310	480	1,160	4.8	NP	36
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-7	1/20/2004	<1	<1	1	1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-7	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-8	1/20/2004	40	11	158	141	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-8	5/24/2004	3	<5	49	23	<0.02	NP	<5
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-9	1/20/2004	<1	<1	<1	<1	<0.02	NP	<1
Cooley's Grocery, UST Permit #00420	Release was reported on July 14, 2000.	MW-9	5/24/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-1	1/20/2000	13,000	25,000	3,300	16,000	NP	NP	NP
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-1	6/4/2001	3 feet free product		NP	NP	NP	NP	NP
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-1	11/27/2001	0.04 feet free product		NP	NP	NP	NP	NP
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-1	3/10/2004	5,700	21,000	2,300	11,500	.2	NP	42,000
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-1	8/3/2004	12,000	19,000	2,700	13,800	.52	<1,000	86,000
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-10	12/3/2001	<1	<5	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-10	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-11	12/3/2001	<1	<5	<1	<3	<0.02	NP	8
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-11	3/10/2004	NP	NP	NP	NP	NP	NP	NP
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-12	12/3/2001	20	<25	45	<15	<0.02	NP	39
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-12	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-12	8/3/2004	<5	<5	<5	<15	<0.02	<5	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-13	12/3/2001	3	<5	20	4	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-13	3/10/2004	360	<10	85	48	<0.02	NP	190
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-13	8/3/2004	<5	<5	<5	<15	<0.02	<5	65
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-14	12/3/2001	<1	<5	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-14	3/10/2004	32	<5	7	<15	<0.02	NP	20
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-14	8/3/2004	NP	NP	NP	NP	NP	NP	NP
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-2	6/4/2001	<1	<1	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-2	11/27/2001	<1	<5	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-2	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-3	6/4/2001	<1	<1	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-3	11/27/2001	<1	<5	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-3	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-4	6/4/2001	3,600	9,000	2,000	9,500	.9	NP	<500
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-4	11/27/2001	1,600	3,200	650	2,800	<0.02	NP	1,100
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-4	3/10/2004	9,400	21,000	2,700	13,600	.85	NP	730
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-4	8/3/2004	9,700	23,000	3,200	17,500	.87	<1,000	1,500
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-5	11/29/2001	29	150	48	240	<0.02	NP	32
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-5	3/10/2004	18	<5	15	<15	<0.02	NP	98
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-5	8/3/2004	<5	<5	<5	<15	<0.02	<5	71
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-6	12/3/2001	<1	<5	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-6	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-6	8/3/2004	<5	<5	<5	<15	<0.02	<5	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-7	12/3/2001	<1	<5	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-7	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-8	12/3/2001	<1	<5	<1	<3	<0.02	NP	3
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-8	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-9	12/3/2001	<1	<5	<1	<3	<0.02	NP	<1
D L Matheny, UST Permit #00820	Release was reported on December 31, 1991. Three USTs are still in use.	MW-9	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	DW-1	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	DW-1	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	DW-1	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	DW-1	4/7/2004	<1	<5	<1	<3	.053	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-1	7/29/1998	3,280	3,710	680	2,030	NP	NP	<2

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-1	4/15/1999	8,900	9,600	1,200	5,000	<25	NP	<130
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-1	7/10/2003	NP	NP	NP	NP	NP	NP	NP
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-1	1/19/2004	1,600	1,700	420	1,800	NP	NP	<50
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-1	4/7/2004	1,700	1,100	560	1,700	.29	NP	25
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-10	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-10	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-10	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-10	4/7/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-11	4/15/1999	80	130	17	130	<1	NP	330
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-11	7/10/2003	78	<50	78	<30	NP	NP	200
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-11	1/19/2004	250	<50	15	<30	NP	NP	260
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-11	4/7/2004	79	<5	100	<3	<0.01	NP	160
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-12	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-12	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-12	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-12	4/7/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-2	10/21/1998	<1	<1	<1	<1	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-2	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-2	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-2	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-2	4/7/2004	<1	<5	<1	<3	<0.01	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-3	10/21/1998	3,100	6,380	844	2,370	NP	NP	<50
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-3	4/15/1999	1,800	2,000	260	2,500	<10	NP	<50
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-3	7/10/2003	180	580	160	1,100	NP	NP	<10
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-3	1/19/2004	450	390	91	1,200	NP	NP	<50
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-3	4/7/2004	280	450	67	700	<0.01	NP	<10
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-4	10/21/1998	291	771	433	464	NP	NP	21
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-4	4/15/1999	130	66	250	610	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-4	7/10/2003	15	<5	22	9	NP	NP	9
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-4	1/19/2004	6	<5	7	7	NP	NP	6
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-4	4/7/2004	11	<5	13	6	<0.01	NP	4

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-5	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-5	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-5	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-5	4/7/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-6	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-6	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-6	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-6	4/7/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-7	4/15/1999	26,000	12,000	1,000	9,400	<25	NP	2,900
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-7	7/10/2003	NP	NP	NP	NP	NP	NP	NP
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-7	1/19/2004	13,000	10,000	1,500	9,200	NP	NP	1,000
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-7	4/7/2004	11,000	12,000	1,700	9,900	6.4	NP	990
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-8	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-8	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-8	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-8	4/7/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-9	4/15/1999	<1	<1	<1	<3	<1	NP	<5
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-9	7/10/2003	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-9	1/19/2004	<1	<5	<1	<3	NP	NP	<1
Dexter Brown Grocery, UST Permit #00413	Release was reported on December 30, 1991. Four USTs were excavated in December 1991.	MW-9	4/7/2004	<1	<5	<1	<3	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-1	5/9/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-1	10/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	5/9/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	10/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	BDL
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	4/26/2001	<1	<1	<1	<1	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-10	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	10/25/1993	6	<3	25	19	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	12/9/1997	322	<5	145	227	<5	NP	145
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	3/4/1998	111	<5	40	23	NP	NP	9
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	22
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-11	4/26/2001	109	2	346	22	NP	NP	1,880

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	10/25/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	BDL
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	4/26/2001	<1	<1	<1	<1	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-12	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	9/17/1997	<5	<5	<5	<15	<0.02	NP	143
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	3/4/1998	<5	<5	<5	<15	NP	NP	516
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	7/16/1998	<5	<5	<5	<15	NP	NP	40
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	21
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	4/26/2001	<1	<1	<1	<1	NP	NP	81
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	9/29/2003	<5	<5	<5	<5	NP	NP	72
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-13	6/3/2004	<5	<5	<5	<5	<0.02	NP	47
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	13
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	4/26/2001	<1	<1	<1	<1	NP	NP	37
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	2/12/2002	<5	<5	<5	<5	<0.02	NP	130
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	4/9/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	9/29/2003	<5	<5	<5	<5	NP	NP	7
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-14	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	9/17/1997	99	89	265	273	<0.02	NP	154
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	BDL
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	4/26/2001	<1	<1	<1	<1	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	2/12/2002	<5	<5	<5	<5	<0.02	NP	30
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	4/9/2003	<5	<5	<5	<5	NP	NP	51
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-15	6/3/2004	<5	<5	<5	<5	<0.02	NP	8
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-16	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-16	4/9/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-16	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-17	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-17	11/6/2002	7	<5	<5	<5	NP	NP	63
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-17	4/9/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-17	9/29/2003	<5	<5	<5	<5	NP	NP	91
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-18	2/12/2002	<5	<5	<5	<5	<0.02	NP	46
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-18	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-18	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-18	6/3/2004	<5	<5	<5	<5	<0.02	NP	45
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-19	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-19	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-19	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-19	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	5/9/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	10/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	11/10/1999	2	BDL	4	2	BDL	NP	BDL
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	4/26/2001	<1	<1	<1	<1	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-2	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-20	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-20	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	5/9/1993	<3	<3	12	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	10/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	9/17/1997	<5	<5	<5	<15	<0.02	NP	44
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	12/9/1997	<5	<5	15	29	<5	NP	49
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	2
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	4/26/2001	<1	<1	<1	<1	NP	NP	97
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	4/9/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-3	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	5/9/1993	268	6	77	187	NP	NP	410
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	10/17/1993	23	4	7	9	NP	NP	64
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	9/17/1997	<5	<5	<5	<15	<0.02	NP	12
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	3/4/1998	11	<5	16	31	NP	NP	47
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	11/12/1998	<5	<5	23	<15	NP	NP	13
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	11/10/1999	2	BDL	18	2	BDL	NP	17
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	4/26/2001	<1	<1	<1	<1	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	9/29/2003	<5	<5	<5	<5	NP	NP	14
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-4	6/3/2004	<5	<5	<5	<5	<0.02	NP	9
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	5/9/1993	429	13	27	74	NP	NP	NP
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	10/17/1993	250	<3	21	25	NP	NP	766
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	9/17/1997	9	<5	42	<15	<0.02	NP	8
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	3/4/1998	28	<5	<5	<15	NP	NP	9
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	7/16/1998	74	<5	32	<15	NP	NP	75
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	11/12/1998	30	<5	5	<15	NP	NP	19
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	11/10/1999	454	BDL	334	127	BDL	NP	242
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	4/26/2001	296	<10	499	151	NP	NP	35
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	2/12/2002	220	74	80	41	<0.02	NP	110
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	11/6/2002	610	48	590	61	NP	NP	1,500
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	4/9/2003	170	11	130	22	NP	NP	270
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	9/29/2003	1,200	74	450	130	NP	NP	820
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-5	6/3/2004	3,100	310	890	420	.026	NP	1,700
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	5/9/1993	585	1,930	785	2,290	NP	NP	486
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	10/17/1993	855	1,860	819	3,900	NP	NP	<100
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	12/9/1997	1,740	4,260	379	5,640	<5	NP	8,100
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	3/4/1998	3,310	7,830	1,500	5,640	NP	NP	2,260
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	7/16/1998	110	1,520	1,030	<750	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	11/12/1998	2,960	5,040	1,690	6,310	NP	NP	294
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	11/10/1999	199	BDL	237	283	BDL	NP	497
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	4/26/2001	<1	<1	2	<1	NP	NP	72
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	11/6/2002	<5	<5	<5	<5	NP	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	9/29/2003	83	140	440	440	NP	NP	160
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-6	6/3/2004	160	91	340	160	<0.02	NP	4,000
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	5/9/1993	49	<3	<3	<8	NP	NP	275
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	10/17/1993	60	<3	<3	<8	NP	NP	446
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	9/17/1997	67	73	142	212	<5	NP	479
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	3/4/1998	14	<5	<5	<15	NP	NP	149
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	7/16/1998	79	<5	101	<15	NP	NP	63
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	11/12/1998	<5	<5	<5	<15	NP	NP	63
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	885
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	4/26/2001	<1	<1	<1	<1	NP	NP	855
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-7	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	5/9/1993	<3	<3	<3	<8	NP	NP	109
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	10/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	11/12/1998	<5	<5	<5	<15	NP	NP	61
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	11/10/1999	BDL	BDL	BDL	BDL	BDL	NP	BDL
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	4/26/2001	<1	<1	<1	<1	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-8	6/3/2004	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	5/9/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	10/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	9/17/1997	<5	<5	6	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	11/10/1999	200	13	153	245	BDL	NP	38
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	MW-9	4/26/2001	1,100	<10	957	509	NP	NP	949
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	9/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	10/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	12/9/1997	<5	<5	<5	<15	<5	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	11/10/1999	BDL	BDL	1	1	BDL	NP	BDL
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	4/26/2001	<1	<1	<1	<1	NP	NP	<1
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	2/12/2002	<5	<5	<5	<5	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	11/6/2002	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	PW-1	9/29/2003	<5	<5	<5	<5	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	WW-1	9/17/1993	<3	<3	<3	<8	NP	NP	<50
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	WW-1	9/17/1997	<5	<5	<5	<15	<0.02	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	WW-1	12/9/1997	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	WW-1	3/4/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	WW-1	7/16/1998	<5	<5	<5	<15	NP	NP	<5
Edistonian Convenience Store, UST Permit #10406	Release was reported on December 23, 1991. Four USTs are still in use.	WW-1	11/12/1998	<5	<5	<5	<15	NP	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-1	12/17/2003	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-1	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-1	9/9/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-2	12/17/2003	<1	<1	<1	<1	<.02	NP	2

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-2	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-2	9/9/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-3	1/15/2004	<1	<1	<1	<1	<.02	NP	12
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-3	4/29/2004	<5	<5	<5	<15	<0.02	NP	6
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	DW-3	9/9/2004	<5	<5	<5	<15	<0.02	NP	7
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-1	5/16/2003	2	6	1	5	<.02	NP	6
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-1	12/17/2003	<1	<1	<1	<1	<.02	NP	34
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-1	4/29/2004	<5	<5	<5	<15	<0.02	NP	9
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-1	9/9/2004	<5	<5	<5	<15	<0.02	NP	29
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-10	12/17/2003	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-10	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-11	12/17/2003	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-11	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-12	12/17/2003	<1	<1	<1	3	<.02	NP	174
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-12	4/29/2004	<5	<5	<5	<15	<0.02	NP	71
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-12	9/9/2004	<5	<5	<5	<15	<0.02	NP	49
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-13	12/17/2003	5	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-13	4/29/2004	95	<5	<5	<15	.077	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-13	9/9/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-14	1/15/2004	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-14	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-15	1/15/2004	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-15	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-16	1/15/2004	<1	<1	<1	<1	<.02	NP	67
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-16	4/29/2004	<5	<5	<5	<15	<0.02	NP	19
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-16	9/9/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-2	5/16/2003	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-2	12/17/2003	<1	<1	<1	5	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-2	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-3	5/16/2003	NP	NP	NP	NP	NP	NP	NP
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-3	12/17/2003	221	1,320	1,420	8,640	38.9	NP	990

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-3	4/29/2004	550	2,600	2,000	10,900	330	NP	1,200
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-3	9/9/2004	480	3,100	2,500	15,000	78	NP	540
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-4	12/17/2003	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-4	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-5	12/17/2003	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-5	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-6	12/17/2003	149	36	146	793	.59	NP	196
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-6	4/29/2004	710	240	470	2,740	<0.02	NP	900
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-6	9/9/2004	390	92	250	1,590	<0.02	NP	290
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-7	12/17/2003	2,030	350	170	1,680	.81	NP	3,560
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-7	4/29/2004	320	42	64	101	.13	NP	710
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-7	9/9/2004	1,900	800	980	3,800	.066	NP	1,900
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-8	12/17/2003	<1	<1	<1	<1	<.02	NP	3
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-8	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-8	9/9/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-9	12/17/2003	<1	<1	<1	<1	<.02	NP	<1
Former Dee Oil, UST Permit #15656	Release was reported on September 30, 2002. Three USTs were removed in September 2002.	MW-9	4/29/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	DMW-1	12/18/2000	4	26	3	11	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	DMW-1	12/11/2001	<1	<5	<1	<3	<0.01	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	DMW-1	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	DMW-1	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-1	8/15/2000	.06 feet free product		NP	NP	NP	NP	NP
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-1	12/18/2000	free product		NP	NP	NP	NP	NP
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-1	12/11/2001	0.33 feet free product		NP	NP	NP	NP	NP
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-1	2/5/2004	0.08 feet free product		NP	NP	NP	NP	NP
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-1	4/6/2004	0.15 feet free product		NP	NP	NP	NP	NP
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-10	12/18/2000	12	150	76	210	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-10	12/11/2001	98	1,900	<25	230	.4	NP	<25
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-10	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-10	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-11	12/18/2000	7	22	3	12	<1	NP	<1

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-11	12/11/2001	11	<5	<1	<3	<0.01	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-11	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-11	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-12	12/18/2000	<1	2	<1	<3	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-12	12/11/2001	<1	<5	<1	<3	<0.01	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-12	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-12	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-13	12/18/2000	320	62	10	34	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-13	12/11/2001	<1	<5	<1	<3	NP	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-13	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-13	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-14	1/29/2002	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-14	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-14	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-2	8/15/2000	BDL	BDL	BDL	BDL	NP	NP	BDL
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-2	12/18/2000	<1	<1	<1	<3	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-2	12/11/2001	NP	NP	NP	NP	NP	NP	NP
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-2	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-2	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-3	8/15/2000	3,500	26,000	3,500	15,000	NP	NP	BDL
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-3	12/18/2000	5,900	52,000	4,600	18,000	<500	NP	<500
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-3	12/11/2001	2,300	9,900	270	4,800	40	NP	<100
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-3	2/5/2004	3,000	44,000	4,700	19,000	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-3	4/6/2004	6,200	52,000	4,100	17,700	20	NP	<250
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-4	8/15/2000	5,800	16,000	2,500	9,600	NP	NP	BDL
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-4	12/18/2000	6,600	19,000	3,000	10,000	<500	NP	<500
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-4	12/11/2001	0.08 feet free product		NP	NP	NP	NP	NP
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-4	2/5/2004	2,900	13,000	2,700	8,000	NP	NP	<100
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-4	4/6/2004	5,100	20,000	2,800	8,200	47	NP	<500
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-5	12/18/2000	<1	<1	<1	<3	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-5	12/11/2001	<1	<5	<1	<3	<0.01	NP	<1

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-5	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-5	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-6	12/18/2000	<1	<1	<1	<3	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-6	12/11/2001	<1	<5	<1	<3	<0.01	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-6	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-6	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-7	12/18/2000	<1	<1	<1	<3	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-7	12/11/2001	<1	<5	<1	<3	<0.01	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-7	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-7	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-8	12/18/2000	<1	<1	<1	<3	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-8	12/11/2001	<1	<5	<1	<3	<0.01	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-8	2/5/2004	<5	8	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-8	4/6/2004	<5	<5	<5	<15	<0.02	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-9	12/18/2000	<1	<1	<1	<3	<1	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-9	12/11/2001	<1	<5	<1	<3	<0.01	NP	<1
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-9	2/5/2004	<5	<5	<5	<15	NP	NP	<5
Former L C Smith Grocery, UST Permit #01204	Release was reported on January 2, 1990. Three USTs were removed in December 1991.	MW-9	4/6/2004	<5	10	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-1	11/3/1999	9,190	14,200	2,280	11,100	NP	NP	884
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-1	2/17/2000	NP	NP	NP	NP	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-1	6/8/2000	NP	NP	NP	NP	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-1	11/9/2000	20,700	32,900	2,860	13,600	NP	NP	2,060
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-1	12/3/2002	<5,000	<5,000	<2,000	3,900	NP	NP	<2,000
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-1	3/10/2004	4,600	8,400	1,300	5,400	<0.02	NP	160
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-10	11/3/1999	<2	<2	<2	<2	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-10	2/17/2000	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-10	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-10	11/8/2000	1	<1	1	3	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-10	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-10	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-11	11/3/1999	<2	<2	<2	<2	NP	NP	<2

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-11	2/17/2000	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-11	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-11	11/8/2000	1	4	<1	3	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-11	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-11	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-12	11/3/1999	<2	<2	<2	3	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-12	2/17/2000	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-12	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-12	11/8/2000	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-12	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-12	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-13	11/3/1999	42	280	91	540	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-13	2/17/2000	3	12	4	14	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-13	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-13	11/8/2000	2	20	3	16	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-13	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-13	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-2	8/10/1999	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-2	11/3/1999	<2	<2	<2	<2	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-2	2/17/2000	7	55	12	62	NP	NP	1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-2	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-2	11/8/2000	18	66	7.7	39.2	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-2	12/3/2002	<5	<5	<5	<15	NP	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-2	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-3	8/10/1999	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-3	11/3/1999	<2	<2	<2	<2	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-3	2/17/2000	3	30	6	37	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-3	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-3	11/8/2000	3	22	2	10	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-3	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-3	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-4	8/10/1999	2,400	13,200	1,890	8,940	NP	NP	<50
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-4	11/3/1999	6,770	22,300	3,120	17,500	NP	NP	60
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-4	2/17/2000	1,770	5,900	960	5,180	NP	NP	170
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-4	6/8/2000	3,880	14,700	3,000	17,200	NP	NP	<500
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-4	11/8/2000	NP	NP	NP	NP	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-4	12/3/2002	6,500	<5,000	<5,000	9,700	NP	NP	<5,000
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-4	3/10/2004	2,400	8,300	970	5,100	.32	NP	<500
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-5	11/3/1999	<2	<2	<2	<2	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-5	2/17/2000	6	46	9	48	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-5	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-5	11/8/2000	2	10	5	6	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-5	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-5	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-6	11/3/1999	<2	<2	<2	<2	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-6	2/17/2000	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-6	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-6	11/8/2000	<1	9	<1	6	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-6	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-6	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-7	11/3/1999	3	<2	<2	<2	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-7	2/17/2000	15	92	18	92	NP	NP	2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-7	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-7	11/8/2000	1	5	1	5	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-7	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-7	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-8	11/3/1999	4	<2	<2	<2	NP	NP	95
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-8	2/17/2000	168	58	16	68	NP	NP	142
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-8	6/8/2000	125	<2	<2	<2	NP	NP	117
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-8	11/8/2000	10	7	1	4	NP	NP	127
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-8	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-8	3/10/2004	280	5	23	25	<0.02	NP	130

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-9	11/3/1999	<2	<2	<2	<2	NP	NP	<2
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-9	2/17/2000	<1	<1	<1	<1	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-9	6/8/2000	<2	<2	<2	<2	NP	NP	<10
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-9	11/8/2000	1	4	1	3	NP	NP	<1
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-9	12/3/2002	<5	<5	<5	<15	NP	NP	NP
Former Neighborhood Grocery, UST Permit #00822	Release was reported on September 20, 1994. Two USTs were removed in September 1994.	MW-9	3/10/2004	<5	<5	<5	<15	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-1	8/18/1998	21	182	43	238	<1	NP	3
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-1	9/4/2001	1.8	13	2	14	0.07	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-1	5/5/2003	<1	<1	<1	2.6	<0.02	NP	<1
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-1	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-2	8/18/1998	<1	<1	<1	3	NP	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-2	9/4/2001	<2	<2	<2	<2	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-2	5/5/2003	<1	<1	<1	1.9	<0.02	NP	<1
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	DW-2	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-1	12/18/1996	79700	202000	43900	202000	NP	NP	12500
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-1	8/18/1998	524	4180	2050	9480	<20	NP	1660
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-1	9/4/2001	FP=1.18'	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-1	5/5/2003	2840	9000	1100	14400	2.6	NP	68.2
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-1	5/5/2004	2880	9650	796	7890	4.97	NP	283
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-10	8/18/1998	158	6530	2640	13090	<5	NP	249
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-10	9/4/2001	DRY	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-10	5/5/2003	491	4640	817	8660	0.08	NP	2.1
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-10	5/5/2004	237	1660	414	3910	<0.02	NP	<1
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-11	8/18/1998	99	4	33	22	NP	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-11	9/4/2001	135	<2	3.8	7.9	0.1	NP	342
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-11	5/5/2003	<1	<1	<1	1	<0.02	NP	9.7
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-11	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-12	8/18/1998	6	3	5	8	NP	NP	8
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-12	9/4/2001	665	136	113	119	0.09	NP	489
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-12	5/5/2003	<1	<1	<1	2.8	<0.02	NP	16.8
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-12	5/5/2004	2.2	<1	5.2	100.2	<0.02	NP	3
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-2	8/18/1998	<1	<1	<1	<1	<1	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-2	9/4/2001	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-2	5/5/2003	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-2	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-3	8/18/1998	108	116	85	117	<1	NP	93
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-3	9/4/2001	<1	1.2	<1	1.2	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-3	5/5/2003	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-3	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-4	8/18/1998	<1	<1	<1	<1	<1	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-4	9/4/2001	<1	2.2	<1	3.3	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-4	5/5/2003	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-4	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-5	8/18/1998	30200	61000	5340	27870	177	NP	81500
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-5	9/4/2001	8240	28200	3240	24100	n/a	NP	3470
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-5	5/5/2003	DRY	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-5	5/5/2004	727	1560	130	14100	ns	NP	1720
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-6	8/18/1998	<1	<1	<1	<1	<1	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-6	9/4/2001	DRY	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-6	5/5/2003	DRY	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-6	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-7	8/18/1998	11	26	37	99	<1	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-7	9/4/2001	DRY	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-7	5/5/2003	DRY	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-7	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-8	8/18/1998	1	4	<1	<1	<1	NP	264
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-8	9/4/2001	DRY	NP	NP	NP	NP	NP	NP

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-8	5/5/2003	DRY	NP	NP	NP	NP	NP	NP
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-8	5/5/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-9	8/18/1998	2500	3170	844	2490	<25	NP	5800
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-9	9/4/2001	3840	<200	1210	1460	<0.02	NP	9010
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-9	5/5/2003	17.2	2	4.8	6.2	<0.02	NP	114
Former Pappas General Merchandise	Release was reported on June 30, 1993. Three USTs were removed in June 1993.	MW-9	5/5/2004	5	<1	<1	<1	<0.02	NP	1.1
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-1	2/13/1996	136	296	89	969	NP	NP	NP
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-1	12/30/1998	87	72	67	810	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-1	1/22/2003	580	190	770	4,740	37	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-1	5/16/2003	330	<120	410	3,310	NP	NP	<120
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-1	12/4/2003	280	380	520	4,100	NP	NP	<50
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-1	2/25/2004	150	120	310	2,530	NP	NP	<50
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-10	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-10	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-10	5/16/2003	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-10	12/4/2003	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-10	2/25/2004	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-11	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-11	1/22/2003	well covered by asphalt			NP	NP	NP	NP
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-12	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-12	1/22/2003	well buried under soil brush			NP	NP	NP	NP
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-13	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-14	12/30/1998	5,600	<5	110	360	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-14	1/22/2003	3,200	17	67	157	3	NP	510
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-14	5/16/2003	1,500	<50	<50	<150	NP	NP	280
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-14	12/4/2003	130	<5	<5	<15	NP	NP	34
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-14	2/25/2004	10	<5	<5	<15	NP	NP	10
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-15	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-15	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-15	5/16/2003	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-15	12/4/2003	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-15	2/25/2004	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-16	12/30/1998	350	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-16	1/22/2003	88	<5	<5	<15	<.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-16	5/16/2003	52	<5	<5	<15	NP	NP	12
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-16	12/4/2003	77	<5	<5	<15	NP	NP	5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-16	2/25/2004	44	<5	<5	<15	NP	NP	7
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-2	4/23/1998	<1	<1	<1	<1	NP	NP	<1
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-2	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-2	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-2	5/16/2003	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-2	12/4/2003	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-2	2/25/2004	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-3	4/23/1998	3	<1	<1	<1	NP	NP	32
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-3	12/30/1998	2	<5	<5	13	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-3	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-3	5/16/2003	<5	<5	<5	<15	NP	NP	13
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-3	12/4/2003	<5	<5	<5	<15	NP	NP	6
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-3	2/25/2004	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-4	4/23/1998	1,620	360	810	3,330	NP	NP	630
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-4	12/30/1998	1,800	600	1,300	6.900	NP	NP	760
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-4	1/22/2003	220	61	110	550	5.4	NP	85
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-4	5/16/2003	<5	<5	<5	40	NP	NP	25
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-4	12/4/2003	27	17	46	222	NP	NP	53
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-4	2/25/2004	7	4	11	57	NP	NP	26
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-5	12/30/1998	2,600	380	980	3,700	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-5	1/22/2003	1,500	200	700	2170	<.02	NP	<100
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-5	5/16/2003	2,200	270	630	2,290	NP	NP	<250
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-5	12/4/2003	1,500	150	440	1,600	NP	NP	<100
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-5	2/25/2004	390	37	270	638	NP	NP	<10
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-6	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-6	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-7	12/30/1998	<5	<5	<5	<5	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-7	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-7	5/16/2003	<5	<5	<5	<15	NP	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-7	12/4/2003	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-7	2/25/2004	<5	<5	<5	<15	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-8	12/30/1998	2	<5	<5	10	NP	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-8	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-9	12/30/1998	<5	<5	<5	<5	NP	NP	17
Former SCDOT Anderson Maintenance Facility, UST Permit #00633	Release was reported on December 30, 1991. Four USTs were removed in September 1994, and two USTs have extended out of use status.	MW-9	1/22/2003	<5	<5	<5	<15	<.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-1	10/2/1998	<1	<1	<1	<1	NP	NP	<1
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-1	11/5/1998	<1	<1	<1	<1	NP	NP	<1
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-1	4/23/2003	<5	<5	<5	<5	NP	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-1	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-1	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-10	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2	10/2/1998	283	129	71	289	NP	NP	7
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2	11/5/1998	510	340	141	812	NP	NP	11
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2	4/23/2003	9,200	1,700	1,500	5,100	NP	NP	160
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2	12/2/2003	3,400	1,200	840	2,200	50	NP	87
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2	9/22/2004	3,000	5,300	680	3,600	20	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2A	11/5/1998	5	9	2	10	NP	NP	<1
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2A	4/23/2003	<5	<5	<5	<5	NP	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2A	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-2A	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-3	10/2/1998	1	2	1	4	NP	NP	<1
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-3	11/5/1998	<1	<1	<1	<1	NP	NP	<1
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-3	4/23/2003	<5	<5	<5	<5	NP	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-3	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-4	11/5/1998	27	<1	35	4	NP	NP	<1
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-4	4/23/2003	680	6	700	8	NP	NP	40
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-4	12/2/2003	200	<5	220	<5	.15	NP	21
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-4	9/22/2004	35	3	550	<1	0.18	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-5	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-5	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-6	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-6	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-7	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-7	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-8	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-8	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
Former Stop & Go Store (Currently Eckerds), UST Permit #00750	Release was reported on September 11, 1998.	MW-9	12/2/2003	<5	<5	<5	<5	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-1	7/17/1996	2,000	1,500	540	11,200	NP	NP	<20
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-1	3/31/1997	1,480	2,920	540	3,510	NP	NP	765
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-1	3/19/2004	480	1,500	910	2,370	<0.02	NP	<50
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-1	10/7/2004	10	19	29	41	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-10	12/6/2001	<1	<1	<1	<1	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-10	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-10	10/7/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-11	12/6/2001	<1	<1	<1	<1	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-11	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-12	12/6/2001	<1	<1	<1	<1	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-12	3/19/2004	well blocked 4.7 feet BTOC			NP	NP	NP	NP
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-13	12/6/2001	<1	<1	<1	<1	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-13	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-14	12/6/2001	4	<1	<1	1	<0.02	NP	94
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-14	3/19/2004	<5	<5	<5	<15	<0.02	NP	21
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-14	10/7/2004	well is bent and damaged, not sampled.			NP	NP	NP	NP
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-15	12/6/2001	<1	<1	<1	<1	<0.02	NP	25
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-15	3/19/2004	<5	<5	<5	<15	<0.02	NP	6
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-15	10/7/2004	<5	<5	<5	<15	<0.02	NP	11
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-16	12/6/2001	<1	<1	<1	<1	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-16	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-16	10/7/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-17	12/6/2001	<1	<1	<1	<1	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-17	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-17	10/7/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-18	12/6/2001	361	<10	<10	323	1.9	NP	316
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-18	3/19/2004	130	<5	<5	47	<0.02	NP	240
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-18	10/7/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-19	12/6/2001	5	6	2	6	<0.02	NP	11
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-19	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-19	10/7/2004	98	<25	<25	<75	<0.02	NP	160
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-2	3/31/1997	110	10	<5	240	NP	NP	270
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-2	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-2	10/7/2004	14	<5	<5	44	<0.02	NP	13
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-3	3/31/1997	190	160	40	270	NP	NP	70
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-3	3/19/2004	560	530	320	618	<0.02	NP	10
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-3	10/7/2004	240	250	300	540	<0.02	NP	<25
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-4	3/31/1997	9	2	<1	16	NP	NP	15
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-4	3/19/2004	11	<5	<5	25	<0.02	NP	10
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-4	10/7/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-5	3/31/1997	310	4	3	180	NP	NP	370
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-5	12/6/2001	71	<2	<2	54	<0.02	NP	118
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-5	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-5	10/7/2004	<5	<5	<5	<15	<0.02	NP	6
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-6	12/6/2001	2,530	42	30	911	2.23	NP	4,500
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-6	3/19/2004	1,100	<50	82	110	.048	NP	1,500
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-6	10/7/2004	220	<25	<25	<75	<0.02	NP	360
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-7	12/14/2001	34	<2	<2	42	.21	NP	20
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-7	3/19/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-7	10/7/2004	<5	<5	<5	<15	<0.02	NP	<5
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-8	12/6/2001	<2	<2	<2	<2	<0.02	NP	137
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-8	3/19/2004	<5	<5	<5	<15	<0.02	NP	88
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-8	10/7/2004	<5	<5	<5	<15	<0.02	NP	37
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-9	12/6/2001	848	205	304	310	.09	NP	1,390
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-9	3/19/2004	<5	<5	<5	<15	<0.02	NP	36

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Former T Mart, UST Permit #11494	Release was reported on February 14, 1991. Four USTs were removed in September 1992.	MW-9	10/7/2004	5	<5	<5	<15	<0.02	NP	12
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	CREEK	4/24/1997	<1	<1	<1	<1	NP	NP	1
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	CREEK	5/5/1998	<1	<1	<1	<1	<0.05	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	DW-1	4/24/1997	<1	<1	<1	<1	NP	NP	3
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	DW-1	5/5/1998	40	162	13	69	<0.05	NP	7
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	DW-1	6/16/1998	<5	47	6	<15	NP	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	DW-1	11/4/2003	<5	<5	<5	<15	<0.02	NP	33
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-1	4/16/1996	2,340	127	246	581	NP	NP	865
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-1	4/24/1997	2,060	<20	40	50	NP	NP	66
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-1	5/5/1998	<1	<1	<1	<1	<0.05	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-1	6/16/1998	1,540	<5	7	23	NP	NP	155
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-1	11/4/2003	440	<25	<25	<75	<0.02	NP	140
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-10	4/24/1997	96	<1	3	36	NP	NP	15
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-10	5/5/1998	33	<1	<1	10	<0.05	NP	7
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-10	6/16/1998	65	9	<5	<15	NP	NP	24
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-10	11/4/2003	<5	<5	<5	<15	<0.02	NP	25
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-2	4/16/1996	8,940	50,100	3,580	25,300	NP	NP	2,480
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-2	4/24/1997	7,240	31,600	3,710	21,300	NP	NP	4,650
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-2	5/5/1998	7,440	29,400	4,300	23,740	<0.05	NP	<100
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-2	6/16/1998	6,710	39,800	2,770	15,400	NP	NP	12,900
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-2	11/4/2003	8,600	19,000	450	18,500	5.3	NP	18,000
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-3	4/16/1996	4,100	5,670	1,060	5,030	NP	NP	1,640
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-3	4/24/1997	3,480	398	551	2,960	NP	NP	829
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-3	5/5/1998	1,550	948	737	3,330	<0.05	NP	854
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-3	6/16/1998	993	703	391	2,210	NP	NP	389
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-3	11/4/2003	2,700	2,100	1,400	4,400	2.5	NP	1,000
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-4	4/24/1997	<1	<1	<1	<1	NP	NP	<1
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-4	5/5/1998	1	<1	<1	<1	<0.05	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-4	6/16/1998	<5	<5	<5	<5	NP	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-4	11/4/2003	<5	<5	<5	<15	<0.02	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-5	4/24/1997	<1	<1	<1	<1	NP	NP	<1

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-5	5/5/1998	1	<1	<1	<1	<0.05	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-5	6/16/1998	<5	<5	<5	<5	NP	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-5	11/4/2003	<5	<5	<5	<15	<0.02	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-6	4/24/1997	22,100	39,800	3,320	16,400	NP	NP	59,500
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-6	5/5/1998	19,300	40,100	4,330	22,340	<0.05	NP	55,200
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-6	6/16/1998	28,300	66,700	3,260	<7,500	NP	NP	64,178
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-6	11/4/2003	23,000	57,000	4,500	24,900	95	NP	46,000
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-7	4/24/1997	<1	<1	<1	<1	NP	NP	<1
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-7	5/5/1998	1	<1	<1	<1	<0.05	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-7	6/16/1998	<5	<5	<5	<5	NP	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-7	11/4/2003	<5	<5	<5	<15	<0.02	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-8	4/24/1997	<1	<1	<1	<1	NP	NP	<1
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-8	5/5/1998	1	<1	<1	<1	<0.05	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-8	6/16/1998	<5	<5	<5	<5	NP	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-8	11/4/2003	<5	<5	<5	<15	<0.02	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-9	4/24/1997	6	<1	<1	<1	NP	NP	<1
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-9	5/5/1998	3	<1	<1	<1	<0.05	NP	<5
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-9	6/16/1998	67	11	<5	<15	NP	NP	23
Fred's Gulf BP, UST Permit #14183	Release was reported on December 31, 1991. Three USTs were removed in December 1991.	MW-9	11/4/2003	<5	<5	<5	<15	<0.02	NP	<5
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	9/4/1995	13,000	17,000	2,500	11,000	NP	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	11/22/1996	7,600	14,000	1,700	11,000	BDL	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	8/11/1997	8,700	18,000	1,700	12,000	BDL	NP	370
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	12/30/1998	570	1,100	96	840	<10	NP	13
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	2/7/2003	11,900	33,800	2,740	20,200	NP	NP	<100
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	6/30/2003	6,750	24,100	1,920	16,200	NP	NP	42
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	4/20/2004	2,200	6,200	740	21,000	<0.02	NP	<50
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-1	9/23/2004	3,600	14,000	530	7,400	<0.02	NP	<20
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-10	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-10	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-2	11/22/1996	BDL	BDL	BDL	BDL	BDL	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-2	8/11/1997	BDL	BDL	BDL	BDL	BDL	NP	BDL
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-2	12/30/1998	<1	<1	<1	<1	<1	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-2	2/7/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-2	6/30/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-2	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-2	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-3	11/22/1996	BDL	BDL	BDL	BDL	BDL	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-3	8/11/1997	BDL	BDL	BDL	BDL	BDL	NP	BDL
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-3	12/30/1998	<1	<1	<1	<1	<1	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-3	2/7/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-3	6/30/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-3	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-3	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-4	11/22/1996	BDL	BDL	BDL	BDL	BDL	NP	NP

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-4	8/11/1997	BDL	BDL	BDL	BDL	BDL	NP	BDL
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-4	12/30/1998	<1	<1	<1	<1	<1	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-4	2/7/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-4	6/30/2003	<1	2	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-4	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-4	9/23/2004	<1	27	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-5	11/22/1996	NP	NP	NP	NP	NP	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-5	8/11/1997	BDL	BDL	BDL	BDL	BDL	NP	BDL
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-5	12/30/1998	<1	<1	<1	<1	<1	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-5	2/7/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-5	6/30/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-5	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-5	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-6	11/22/1996	NP	NP	NP	NP	NP	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-6	8/11/1997	BDL	BDL	BDL	BDL	BDL	NP	BDL
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-6	12/30/1998	<1	<1	<1	<1	<1	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-6	2/7/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-6	6/30/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-6	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-6	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-7	11/22/1996	12,000	20,000	1,900	14,000	5.8	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-7	8/11/1997	9,900	19,000	1,300	15,000	BDL	NP	29,000
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-7	12/30/1998	5,200	9,200	900	14,000	<100	NP	11,000
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-7	2/7/2003	7,850	21,700	3,160	20,800	NP	NP	845
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-7	6/30/2003	13,200	28,000	2,580	27,600	NP	NP	404
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-7	4/21/2004	990	4,800	500	10,100	.58	NP	<50
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-7	9/23/2004	0.02 feet free product		NP	NP	NP	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-8	4/21/2004	3	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-8	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-9	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	MW-9	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	PCW-1	11/22/1996	12	8	1	6	BDL	NP	NP
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	PCW-1	8/11/1997	BDL	BDL	BDL	BDL	BDL	NP	BDL
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	PCW-1	12/30/1998	28	<1	<1	3	<1	NP	8
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	PCW-1	2/7/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	PCW-1	6/30/2003	<1	<1	<1	<1	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	PCW-1	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	PCW-1	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-1	12/30/1998	<1	<1	<1	<3	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-1	2/7/2003	<1	<1	<1	<3	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-1	6/30/2003	<1	<1	<1	<3	NP	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-1	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-1	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-2	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-2	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-3	4/21/2004	<1	<1	<1	<3	<0.02	NP	<1
Gruber's Grocery, UST Permit #02537	Release was reported on October 6, 1992.	WSW-3	9/23/2004	<1	<1	<1	<3	<0.02	NP	<1
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	DW-10	11/8/2001	27	9	3	16	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	DW-10	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-1	2/20/1997	6,900	17,900	4,710	22,800	NP	NP	97
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-1	2/16/2001	well not found		NP	NP	NP	NP	NP
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-11	11/8/2001	<2	<2	<2	<2	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-11	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-12	11/8/2001	196	3	41	17	<.02	NP	5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-12	1/4/2004	19	<5	10	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-13	11/8/2001	1,020	5	490	1,270	<.02	NP	57
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-13	1/4/2004	0.06 feet free product		NP	NP	NP	NP	NP
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-14	11/8/2001	9	<2	<2	6	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-14	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-15	11/8/2001	615	18	4	20	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-15	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-16	11/8/2001	77	5	<2	4	<.02	NP	4
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-16	1/4/2004	<5	<5	<5	<15	<.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-17	11/8/2001	<2	<2	<2	<2	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-17	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-18	11/8/2001	<2	<2	<2	<2	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-18	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-19	11/8/2001	5,900	23	805	34	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-19	1/4/2004	2,700	120	340	181	<.02	NP	<120
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-2	2/16/2001	700	4,900	2,100	11,000	18	NP	<10
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-2	11/8/2001	0.04 feet free product		NP	NP	NP	NP	NP
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-2	1/4/2004	casing broken and filled with dirt			NP	NP	NP	NP
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-20	11/8/2001	<2	<2	<2	<2	.04	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-20	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-21	11/8/2001	<2	<2	<2	<2	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-21	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-3	2/16/2001	2,400	13,000	6,200	35,000	NP	NP	<25
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-3	11/8/2001	0.24 feet free product		NP	NP	NP	NP	NP
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-3	1/4/2004	490	2,100	1,900	9,300	.22	NP	<100
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-4	2/16/2001	760	2,900	2,000	10,000	1	NP	<10
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-4	11/8/2001	153	255	108	516	.9	NP	2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-4	1/4/2004	120	210	130	540	.56	NP	5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-5	11/8/2001	<2	<2	<2	<2	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-5	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-6	11/8/2001	93	613	1,230	3,600	.62	NP	<20
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-6	1/4/2004	240	1,400	1,900	7,700	.61	NP	<50
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-7	11/8/2001	<2	<2	<2	<2	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-7	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-8	11/8/2001	38	2	3	6	<.02	NP	<2
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-8	1/4/2004	<5	<5	<5	<15	<.02	NP	<5
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-9	11/8/2001	2,500	18,600	2,380	10,900	31.2	NP	<200
Kathy's Grocery, UST Permit #10917	Release was reported on March 20, 1995.	MW-9	1/4/2004	610	6,200	980	5,800	4.3	NP	<5
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	DW-1	3/25/2003	1,630	1,810	320	1,000	.05	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	DW-1	3/2/2004	51	8	<5	24	<0.02	NP	<5
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-1	10/3/2001	185	115	60	175	.05	NP	<50
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-1	12/20/2001	9	<5	<1	<3	<0.02	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-1	5/13/2002	508	24	126	196	NP	NP	<50
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-1	3/25/2003	1,200	1,010	314	888	<0.02	NP	<10
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-1	3/2/2004	6,000	8,200	530	10,800	<0.02	NP	<120
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-10	3/25/2003	<1	<1	<1	6	<0.02	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-10	3/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-2	12/20/2001	84	41	18	53	<0.02	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-2	5/13/2002	660	204	92	270	NP	NP	<50
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-2	3/25/2003	142	7	22	26	<0.02	NP	3
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-2	3/2/2004	26	<5	6	<15	<0.02	NP	7
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-3	12/20/2001	<1	<5	<1	<3	<0.02	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-3	5/13/2002	<1	<1	<1	<1	NP	NP	<5
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-3	3/25/2003	<1	<1	<1	<1	<0.02	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-3	3/2/2004	<5	<5	<5	<15	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-4	12/20/2001	5	<5	2	8	<0.02	NP	14
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-4	5/13/2002	181	18	35	46	NP	NP	<5
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-4	3/25/2003	5	3	2	3	.03	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-4	3/2/2004	44	47	11	39	.82	NP	<5
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-5	3/25/2003	48	7	4	12	<0.02	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-5	3/2/2004	54	<5	<5	<15	<0.02	NP	<5
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-6	3/25/2003	175	179	336	1,070	<0.02	NP	7
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-6	3/2/2004	160	570	1,000	3,800	.24	NP	<120
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-7	3/25/2003	6,920	14,400	640	3,540	5.29	NP	117
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-7	3/2/2004	7,500	13,000	1,300	10,000	25	NP	<120
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-8	3/25/2003	878	1,620	412	1,860	5.36	NP	7
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-8	3/2/2004	2,100	4,500	950	4,700	9	NP	<120
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-9	3/25/2003	<1	<1	<1	7	<0.02	NP	<1
Lakes Exxon, UST Permit #01255	Release was reported on May 31, 1989. Eight USTs were removed in June 1994 and January 2004.	MW-9	3/2/2004	<5	<5	<5	<15	<0.02	NP	65
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	DW-1	5/19/2003	1,170	10,100	1,970	10,900	35.2	NP	66
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	DW-1	5/18/2004	11	47	61	320	.58	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	DW-2	5/19/2003	<1	<1	<1	<1	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	DW-2	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-1	9/1/1999	480	2,306	1,112	5,105	<0.02	NP	<100
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-1	8/9/2000	1 inch free p	NP	NP	NP	NP	NP	NP
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-1	5/19/2003	7,790	27,600	3,180	16,900	463	NP	2,070
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-1	5/18/2004	9,200	32,000	3,400	20,300	130	NP	1,000
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-10	5/19/2003	<1	<1	<1	<1	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-10	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-11	5/19/2003	<1	<1	<1	<1	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-11	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-2	8/9/2000	111	9	114	148	<1	NP	349
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-2	5/19/2003	<1	<1	<1	<1	<0.02	NP	2
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-2	5/18/2004	<5	<5	<5	<15	.013	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-3	8/9/2000	1,580	193	872	3,633	<10	NP	155
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-3	5/19/2003	<1	<1	<1	<1	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-3	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-4	8/9/2000	75	139	59	319	<1	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-4	5/19/2003	3,620	3,160	1,900	9,920	0.99	NP	600
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-4	5/18/2004	1,300	610	470	2,720	.14	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-5	5/19/2003	<1	<1	<1	<1	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-5	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-6	5/19/2003	<1	<1	<1	<1	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-6	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-7	5/19/2003	<1	1	<1	2	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-7	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-8	5/19/2003	<1	2	<1	2	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-8	5/18/2004	<5	<5	<5	<15	<0.02	NP	55
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-9	5/19/2003	2	<1	<1	4	<0.02	NP	<1
Luckys Corner Mart, UST Permit #11369	Release was reported on January 8, 1993. Five USTs are still in use.	MW-9	5/18/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	5/4/1999	122	841	232	1,556	NP	NP	7
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	10/1/1999	204	268	107	94	NP	NP	<10
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	1/3/2001	310	300	170	940	NP	NP	<50
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	6/12/2001	310	428	212	1,300	NP	NP	<100

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	9/27/2001	276	164	158	878	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	1/17/2002	920	320	570	444	NP	NP	<2
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	5/17/2004	450	580	560	3,500	1.2	NP	<50
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-1	10/6/2004	820	4,700	1,700	11,600	.42	<50	<50
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-10	1/3/2001	1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-10	6/12/2001	<1	<1	<1	5	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-10	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-11	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-11	6/12/2001	<1	<1	<1	<1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-11	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-12	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-12	6/12/2001	<1	<1	<1	<1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-12	9/27/2001	<1	<1	<1	<1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-12	1/17/2002	<2	<2	<2	<2	NP	NP	<2
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-12	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-13	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-13	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-14	1/3/2001	<1	<1	<1	<3	NP	NP	4
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-14	6/12/2001	<1	<1	<1	<1	NP	NP	7
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-14	9/27/2001	<1	<1	<1	<1	NP	NP	12
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-14	1/17/2002	<2	<2	<2	<2	NP	NP	12
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-14	5/17/2004	<5	<5	<5	<15	0.04	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-14	10/6/2004	<5	<5	<5	<15	<0.02	<5	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-15	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-15	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-2	10/1/1999	71	105	8	47	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-2	1/3/2001	19	12	4	59	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-2	6/12/2001	334	572	146	990	NP	NP	<100
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-2	9/27/2001	157	227	51	463	NP	NP	<50
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-2	1/17/2002	350	451	148	1,180	NP	NP	<20
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-2	5/17/2004	15	<5	<5	37	.21	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-2	10/6/2004	<5	<5	<5	<15	<0.02	<5	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-3	10/1/1999	25	41	3	18	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-3	1/3/2001	1,800	5,100	880	4,400	NP	NP	<100
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-3	6/12/2001	2,900	9,610	1,470	7,080	NP	NP	<250
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-3	9/27/2001	<1	<1	<1	1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-3	1/17/2002	2,670	7,080	169	382	NP	NP	6
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-3	5/17/2004	960	530	490	1,230	8.2	NP	<50
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-3	10/6/2004	<5	<5	<5	<15	<0.02	<5	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-4	10/1/1999	405	765	132	110	NP	NP	<10
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-4	1/3/2001	34	98	19	94	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-4	6/12/2001	2,440	2,840	370	3,440	NP	NP	<250
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-4	9/27/2001	4,320	8.370	1,300	8,170	NP	NP	<250
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-4	1/17/2002	<2	<2	<2	<2	NP	NP	<2
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-4	5/17/2004	1,000	680	53	1,070	2.1	NP	99
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-4	10/6/2004	790	440	130	990	.12	<100	<100
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-5	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-5	6/12/2001	<1	2	<1	4	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-5	9/27/2001	<1	<1	<1	<1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-5	1/17/2002	<2	<2	<2	<2	NP	NP	<2
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-5	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-6	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-6	6/12/2001	<1	3	2	10	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-6	9/27/2001	<1	<1	<1	<1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-6	1/17/2002	<2	<2	<2	<2	NP	NP	<2
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-6	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-7	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-7	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-8	1/3/2001	<1	<1	<1	<3	NP	NP	<1
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-8	6/12/2001	<1	<1	<1	<1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-8	9/27/2001	<1	<1	<1	<1	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-8	1/17/2002	<2	<2	<2	<2	NP	NP	<2
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-8	5/17/2004	<5	<5	<5	<15	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-9	1/3/2001	1,400	30	70	840	NP	NP	<5
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-9	6/12/2001	1,740	<100	200	920	NP	NP	<500
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-9	9/27/2001	1,840	<10	11	937	NP	NP	<50
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-9	1/17/2002	2,260	14	40	1,520	NP	NP	21
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-9	5/17/2004	1,300	<25	<25	460	.1	NP	15
Madden Station, UST Permit #16099	Release was reported on December 9, 1994. Three USTs were removed in March 1995.	MW-9	10/6/2004	1,500	<100	<100	450	.025	49	<100
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	DMW-1	11/3/1997	110	349	57	360	<1	NP	251
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	DMW-1	6/13/2003	<1	<5	<1	<3	NP	NP	13
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	DMW-2	1/6/2004	<1	<5	<1	<3	<0.02	NP	9
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-1	11/1/1996	17,700	32,100	2,880	19,700	NP	NP	57,000
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-1	11/3/1997	10,800	26,000	2,800	16,900	<100	NP	57,000
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-1	11/19/1998	4,850	12,400	1,840	6,480	1.2	NP	25,400
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-1	6/13/2003	11,000	24,000	3,200	19,000	NP	NP	40,000
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-10	11/3/1997	<1	<1	<1	<1	<1	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-10	6/13/2003	<1	<5	<1	<3	NP	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-11	11/3/1997	<1	<1	<1	<1	<1	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-11	6/13/2003	NP	NP	NP	NP	NP	NP	NP
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-11	6/10/2004	NP	NP	NP	NP	NP	NP	NP
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-12	6/13/2003	<1	<5	<1	<3	NP	NP	3
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-13	1/6/2004	<1	<5	<1	<3	<0.02	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-14	1/6/2004	<1	<5	<1	<3	<0.02	NP	7
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-15	1/6/2004	<1	<5	<1	<3	<0.02	NP	270
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-16	1/6/2004	<1	<5	<1	<3	<0.02	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-2	11/1/1996	9	<1	1	8	NP	NP	22
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-2	11/3/1997	177	2	16	28	<1	NP	1,040
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-2	11/19/1998	116	<10	11	<10	<0.02	NP	472
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-2	6/13/2003	41	<10	<2	<6	NP	NP	260
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-3	11/1/1996	839	1,120	1,190	6,990	NP	NP	587
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-3	11/3/1997	107	211	152	1,243	<1	NP	82
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-3	11/19/1998	89	72	176	215	<0.02	NP	51
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-3	6/13/2003	11	38	100	740	NP	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-4	11/3/1997	200	3,300	1,230	7,100	<100	NP	100
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-4	11/19/1998	50	1,440	776	1,490	<0.02	NP	<20
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-4	6/13/2003	3	<5	<1	6	NP	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-5	11/3/1997	28	<1	<1	63	<1	NP	18
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-5	11/19/1998	1	<1	<1	6	<0.02	NP	2
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-5	6/13/2003	<1	<5	<1	<3	NP	NP	<1
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-6	11/3/1997	4,000	12,500	1,170	4,520	<10	NP	3,800
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-6	11/19/1998	2,770	21,600	1,400	4,430	<0.02	NP	1,520
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-6	6/13/2003	120	<250	67	250	NP	NP	130
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-7	11/3/1997	120	2	2	28	<1	NP	1,030
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-7	11/19/1998	162	1	15	39	<0.02	NP	954
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-7	6/13/2003	16	<5	1	<3	NP	NP	330
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-8	11/3/1997	1,170	160	1,180	6,890	<10	NP	6,150
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-8	11/19/1998	574	12	399	1,240	<0.02	NP	2,830
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-8	6/13/2003	<1	<5	<1	<3	NP	NP	160
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-9	11/3/1997	<1	<1	<1	<1	<1	NP	17
Morris Mini Mart #2, UST Permit #00812	Release was reported on December 11, 1991. Four USTs are still in use.	MW-9	6/13/2003	<1	<5	<1	<3	NP	NP	7
Mr. B's Mart	Release was reported on December 17, 1998.	DW-1	5/22/2003	2160	3680	506	2760	<0.02	NP	1960
Mr. B's Mart	Release was reported on December 17, 1998.	DW-1	10/8/2003	8.5	2.6	<5	7.6	<0.02	NP	46
Mr. B's Mart	Release was reported on December 17, 1998.	DW-1	2/13/2004	11	2	<5	10.5	<0.02	NP	46
Mr. B's Mart	Release was reported on December 17, 1998.	DW-1	5/27/2004	12	<5	<5	11.5	<0.02	NP	48
Mr. B's Mart	Release was reported on December 17, 1998.	MW-1	6/14/2000	<5	5.8	<5	<15	<5	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-1	9/16/2002	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-1	5/22/2003	1.7	3.4	<1	2.5	<0.02	NP	2
Mr. B's Mart	Release was reported on December 17, 1998.	MW-1	10/7/2003	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-1	2/13/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-1	5/27/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-10	5/22/2003	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-10	10/7/2003	<5	<5	<5	<15	NP	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-10	2/13/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-10	5/27/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-2	6/14/2000	3400	12000	1700	10000	<250	NP	4300

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Mr. B's Mart	Release was reported on December 17, 1998.	MW-2	9/16/2002	DRY	NP	NP	NP	NP	NP	NP
Mr. B's Mart	Release was reported on December 17, 1998.	MW-2	5/22/2003	13800	18200	1040	6440	0.28	NP	16900
Mr. B's Mart	Release was reported on December 17, 1998.	MW-2	10/7/2003	17000	27000	3200	14500	0.66	NP	21000
Mr. B's Mart	Release was reported on December 17, 1998.	MW-2	2/13/2004	20000	37000	2700	17000	0.55	NP	22000
Mr. B's Mart	Release was reported on December 17, 1998.	MW-2	5/27/2004	29000	53000	3500	22000	0.49	NP	81000
Mr. B's Mart	Release was reported on December 17, 1998.	MW-3	9/16/2002	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-3	5/22/2003	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-3	10/7/2003	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-3	2/13/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-4	9/16/2002	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-4	5/22/2003	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-4	10/7/2003	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-4	2/13/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-4	5/27/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-5	9/16/2002	890	2340	284	1370	<0.02	NP	544
Mr. B's Mart	Release was reported on December 17, 1998.	MW-6	5/22/2003	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-6	10/7/2003	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-6	2/13/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-7	5/22/2003	466	20.1	19	149	<0.02	NP	652
Mr. B's Mart	Release was reported on December 17, 1998.	MW-7	10/7/2003	1300	170	160	910	<0.02	NP	260
Mr. B's Mart	Release was reported on December 17, 1998.	MW-7	2/13/2004	860	130	85	430	<0.02	NP	250
Mr. B's Mart	Release was reported on December 17, 1998.	MW-7	5/27/2004	490	36	63	396	<0.02	NP	170
Mr. B's Mart	Release was reported on December 17, 1998.	MW-8	5/22/2003	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-8	10/7/2003	<5	<5	<5	<15	NP	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-8	2/13/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-8	5/27/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-9	5/22/2003	<1	<1	<1	<1	<0.02	NP	<1
Mr. B's Mart	Release was reported on December 17, 1998.	MW-9	10/7/2003	<5	<5	<5	<15	NP	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-9	2/13/2004	<5	<5	<5	<15	<0.02	NP	<5
Mr. B's Mart	Release was reported on December 17, 1998.	MW-9	5/27/2004	<5	<5	<5	<15	<0.02	NP	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-1	5/25/1996	0.02 feet free product		NP	NP	NP	NP	NP
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-1	9/11/1996	3,400	4,400	2,300	14,000	NP	NP	16
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-1	3/25/1999	2,780	3,370	1,700	3,970	NP	NP	100
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-1	2/3/2000	5,820	6,380	3,870	13,200	NP	NP	440
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-1	7/18/2000	NP	NP	NP	NP	NP	NP	NP
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-1	7/16/2003	NP	NP	NP	NP	NP	NP	NP
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-1	7/22/2004	7,000	8,700	2,800	11,000	.54	560	120
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-10	3/25/1999	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-10	2/3/2000	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-10	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-11	3/25/1999	<1	<1	<1	2	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-11	2/3/2000	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-11	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-11	7/16/2003	<5	<5	<5	<15	NP	NP	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-11	7/22/2004	<5	<5	<5	<15	<0.02	<5	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-12	3/25/1999	<1	<1	<1	2	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-12	2/3/2000	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-12	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-13	3/25/1999	6	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-13	2/3/2000	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-13	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-13	7/16/2003	<5	<5	<5	<15	NP	NP	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-13	7/22/2004	6	<5	<5	<15	<0.02	<5	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-14	3/25/1999	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-14	2/3/2000	7	13	9	38	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-14	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-15	3/25/1999	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-15	2/3/2000	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-15	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-2	9/11/1996	2,200	8,500	2,900	2,800	NP	NP	7,000
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-2	3/25/1999	4,780	9.940	2,410	6,560	NP	NP	<50
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-2	2/3/2000	5,540	12,200	2,460	8,640	NP	NP	170
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-2	7/18/2000	6,450	<40	3,120	10,300	NP	NP	154

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-2	7/16/2003	14,000	31,000	3,800	13,900	NP	NP	340
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-2	7/22/2004	11,000	25,000	3,800	15,800	.27	840	310
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-3	9/11/1996	6,300	4,900	1,400	6,500	NP	NP	77
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-3	3/25/1999	2,250	566	482	678	NP	NP	<20
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-3	2/3/2000	1,940	580	550	1,780	NP	NP	<50
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-3	7/18/2000	1,860	300	680	1,270	NP	NP	16
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-3	7/16/2003	29	3	7	<15	NP	NP	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-3	7/22/2004	<5	<5	<5	<15	.54	<5	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-4	3/25/1999	5	<1	<1	<1	NP	NP	4
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-4	2/3/2000	4	<1	2	2	NP	NP	11
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-4	7/18/2000	3	3	3	5	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-4	7/16/2003	<5	<5	<5	<15	NP	NP	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-4	7/22/2004	<5	<5	<5	<15	<0.02	<5	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-5	3/25/1999	2	<1	3	6	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-5	2/3/2000	2	<1	1	4	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-5	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-5	7/16/2003	<5	<5	<5	<15	NP	NP	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-6	3/25/1999	27	8	33	68	NP	NP	32
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-6	2/3/2000	23	4	22	33	NP	NP	19
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-6	7/18/2000	16	<2	24	16	NP	NP	<10
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-6	7/16/2003	<5	<5	<5	<15	NP	NP	<5
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-6	7/22/2004	NP	NP	NP	NP	NP	NP	NP
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-7	3/25/1999	2,700	1,600	960	3,270	NP	NP	<50
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-7	2/3/2000	2,140	515	955	3,540	NP	NP	75
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-7	7/18/2000	NP	NP	NP	NP	NP	NP	NP
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-7	7/22/2004	3,700	1,100	1,400	3,900	41	300	25
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-8	3/25/1999	725	<50	605	1,000	NP	NP	<50
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-8	2/3/2000	158	51	200	493	NP	NP	15
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-8	7/18/2000	NP	NP	NP	NP	NP	NP	NP
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-8	7/22/2004	NP	NP	NP	NP	NP	NP	NP
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-9	3/25/1999	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-9	2/3/2000	<1	<1	<1	<1	NP	NP	<1
Myers Service Station, UST Permit #14098	Release was reported on December 16, 1991.	MW-9	7/18/2000	<2	<2	<2	<2	NP	NP	<10
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	DW-1	7/10/2003	<1	<1	<1	<1	<0.02	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	DW-1	12/16/2003	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	DW-1	4/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	DW-2	7/10/2003	<1	<1	<1	<1	<0.02	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	DW-2	12/16/2003	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	DW-2	4/28/2004	6	13	<5	<15	.034	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-1	9/18/1996	3,500	7,000	1,700	8,500	NP	NP	130
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-1	9/16/2002	4,480	9,640	1,980	13,600	66.7	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-1	7/10/2003	1,410	1,660	728	3,930	8.97	NP	1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-1	12/16/2003	2,700	3,700	1,500	7,000	29	NP	<120
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-1	4/28/2004	3,700	5,400	2,700	13,300	51	NP	<250
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-10	12/16/2003	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-10	4/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-11	12/16/2003	6	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-11	4/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-12	7/10/2003	<1	<1	<1	<1	.15	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-12	12/16/2003	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-12	4/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-2	9/18/1996	2,500	11,000	2,000	11,000	NP	NP	43
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-2	9/16/2002	9,250	31,600	2,110	11,600	731	NP	105
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-2	7/10/2003	3,180	17,800	2,360	13,500	331	NP	26
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-2	12/16/2003	3,600	16,000	1,900	10,900	300	NP	<100
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-2	4/28/2004	1,500	9,900	970	6,000	140	NP	<500
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-3	9/18/1996	<1	<1	<1	<1	NP	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-3	9/16/2002	<2	<2	<2	<2	<0.02	NP	<2
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-3	7/10/2003	<1	<1	<1	<1	<0.02	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-3	12/16/2003	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-3	4/28/2004	<5	<5	<5	<15	.064	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-4	7/10/2003	1,570	1,120	420	2,060	6.66	NP	39
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-4	12/16/2003	720	68	450	2,090	1.9	NP	<50

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-4	4/28/2004	840	110	610	2,940	.3	NP	<50
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-5	7/10/2003	<1	<1	<1	<1	<0.02	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-5	12/16/2003	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-5	4/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-6	7/10/2003	<1	<1	<1	<1	<0.02	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-6	12/16/2003	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-6	4/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-7	7/10/2003	37	163	102	1,450	8.28	NP	50
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-7	12/16/2003	220	1,100	180	1,850	13	NP	56
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-7	4/28/2004	12	46	72	420	4.2	NP	25
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-8	7/10/2003	784	7,790	1,160	6,850	35.4	NP	<1
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-8	12/16/2003	1,200	30,000	3,800	32,000	44	NP	<100
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-8	4/28/2004	1,100	14,000	1,900	12,400	71	NP	<1,200
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-9	7/10/2003	1,740	5,120	1,210	7,150	111	NP	3
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-9	12/16/2003	2,800	4,200	2,000	10,800	30	NP	<100
Pearman Dairy Road, UST Permit #17641	Release was reported on September 13, 1996. One UST was removed (date unknown).	MW-9	4/28/2004	3,300	7,300	2,000	10,800	86	NP	<250
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	DW-1	7/20/1998	<1	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	DW-1	1/27/1999	<1	<1	<1	3	<1	NP	1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	DW-1	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-1	9/10/1997	10,100	2,390	1,520	9,940	NP	NP	NP
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-1	7/20/1998	3,300	1,300	700	3,200	1.19	NP	1,300
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-1	1/27/1999	3,950	1,370	850	50	<10	NP	105
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-1	8/1/2003	85	180	900	3,800	.5	NP	460
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-10	7/20/1998	<1	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-10	1/27/1999	<1	<1	<1	<1	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-10	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-11	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-2	1/9/1998	4,420	740	518	6,700	<0.05	NP	<50
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-2	7/20/1998	3,120	950	475	2,870	2.63	NP	<50
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-2	1/27/1999	5,360	690	580	8,620	<10	NP	<10
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-2	8/1/2003	4,200	<3,000	890	7,200	1.2	NP	<620
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-3	1/9/1998	<1	<1	<1	<1	<0.05	NP	<5
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-3	7/20/1998	14	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-3	1/27/1999	501	<1	<1	33	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-3	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-4	1/9/1998	1	<1	<1	2	<0.05	NP	<5
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-4	7/20/1998	<1	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-4	1/27/1999	<1	<1	<1	<1	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-4	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-5	7/20/1998	<1	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-5	1/27/1999	<1	<1	<1	<1	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-5	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-6	7/20/1998	<1	104	<1	2	<0.02	NP	163
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-6	1/27/1999	<1	<1	<1	<1	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-6	8/1/2003	<1	<5	<1	<3	<0.02	NP	65
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-7	7/20/1998	<1	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-7	1/27/1999	<1	<1	<1	<1	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-7	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-8	7/20/1998	<1	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-8	1/27/1999	<1	<1	<1	<1	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-8	8/1/2003	<1	<5	<1	<3	NP	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-9	7/20/1998	<1	<1	<1	<1	<0.02	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-9	1/27/1999	<1	<1	<1	<1	<1	NP	<1
Plez U, UST Permit #00562	Release was reported on March 12, 1997. One kerosene UST was abandoned in January 1997, and three gasoline USTs are still in use.	MW-9	8/1/2003	<1	<5	<1	<3	<0.02	NP	<1
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	1/12/1997	77	70	900	2,680	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	9/19/1997	17	23	158	629	NP	NP	NS
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	4/15/1998	ND	64	565	1,890	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	9/8/1998	0.02 feet free product		NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	2/9/1999	14	16	276	593	NP	NP	<10
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	10/2/2002	<5	<5	200	326	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	9/22/2003	well not found		NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-1	6/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-10	4/15/1998	64	586	146	2,770	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-10	9/8/1998	NS	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-10	2/9/1999	25	300	52	1,280	NP	NP	<10
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-10	10/2/2002	<50	120	120	2,400	NP	NP	<50
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-11	4/15/1998	8,040	623	2,130	6,400	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-11	9/8/1998	NS	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-11	2/9/1999	6,550	325	2,580	6,450	NP	NP	<50
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-11	10/2/2002	1,900	490	400	1,330	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-11	9/22/2003	3,600	100	1,600	3,300	4.1	NP	<120
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-12	4/15/1998	457	1,080	2,130	8,500	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-12	9/8/1998	481	880	1,890	7,000	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-12	2/9/1999	231	356	990	5,030	NP	NP	<10
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-12	10/2/2002	330	190	2,500	6,300	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-12	9/22/2003	220	76	1,200	3,070	<0.02	NP	<100
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-12	6/28/2004	260	280	1,500	4,400	<0.02	NP	<120
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-13	9/8/1998	63	188	349	1,020	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-13	2/9/1999	385	715	980	2,250	NP	NP	<10
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-13	10/2/2002	7	10	140	200	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-13	6/28/2004	470	920	1,700	5,000	<0.02	NP	<50
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-13	8/18/2004	NP	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-14	9/8/1998	152	693	691	2,020	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-14	2/9/1999	365	1,270	1,230	3,340	NP	NP	<1
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-14	10/2/2002	58	87	410	810	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-14	6/28/2004	3,500	9,000	1,800	9,200	25	NP	<50
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-14	8/18/2004	NP	NP	NP	NP	NP	NP	NP

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-15	9/8/1998	14	27	130	282	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-15	2/9/1999	7	3	36	59	NP	NP	<1
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-15	10/2/2002	<5	<5	35	<15	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-2	1/12/1997	1,620	5,000	4,660	16,000	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-2	9/19/1997	591	1,750	1,950	6,150	NP	NP	NS
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-2	4/15/1998	318	1010	733	3,430	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-2	9/8/1998	411	1,130	1,190	3,940	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-2	2/9/1999	259	760	982	3,310	NP	NP	<10
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-2	10/2/2002	NP	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	1/12/1997	1	ND	2	4	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	9/19/1997	ND	ND	ND	ND	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	4/15/1998	ND	ND	ND	1	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	9/8/1998	ND	1	ND	1	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	2/9/1999	<1	<1	<1	<3	NP	NP	<1
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	10/2/2002	<5	<5	<5	<15	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	9/22/2003	well under car, not sampled			NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	6/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-3	8/18/2004	NP	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-4	4/15/1998	452	1,600	426	2,100	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-4	9/8/1998	NS	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-4	2/9/1999	963	1,900	411	1,760	NP	NP	8
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-4	10/2/2002	1,700	3,000	1,500	6,200	NP	NP	<250
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-4	9/22/2003	290	260	37	420	0.52	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-4	8/18/2004	NP	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-5	4/15/1998	3,730	20,000	2,870	16,800	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-5	9/8/1998	NS	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-5	2/9/1999	5,130	14,400	2,670	13,900	NP	NP	<100
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-5	10/2/2002	0.35 feet free product		NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-5	9/22/2003	2,600	680	1,900	7,700	5.4	NP	<120
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-5	8/18/2004	NP	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-6	4/15/1998	770	2,750	721	3,720	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-6	9/8/1998	1,640	4,710	1,220	5,200	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-6	2/9/1999	1,660	5,290	1,560	7,120	NP	NP	<100
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-6	10/2/2002	NP	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-7	4/15/1998	ND	ND	ND	2	NP	NP	7
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-7	9/8/1998	ND	ND	ND	ND	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-7	2/9/1999	<1	<1	<1	<3	NP	NP	2
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-7	10/2/2002	<5	<5	<5	<15	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-7	9/22/2003	<5	<5	<5	<15	<0.02	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-7	6/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-8	4/15/1998	ND	ND	ND	ND	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-8	9/8/1998	ND	1	ND	ND	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-8	2/9/1999	2	<1	<1	<3	NP	NP	<1
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-8	10/2/2002	<5	<5	<5	<15	NP	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-8	9/22/2003	<5	<5	<5	<15	<0.02	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-8	6/28/2004	<5	<5	<5	<15	<0.02	NP	<5
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-9	4/15/1998	1,390	8,530	1,260	8,500	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-9	9/8/1998	NS	NP	NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-9	2/9/1999	2,160	9,190	1,340	9,540	NP	NP	<100
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-9	10/2/2002	1,500	580	1,500	6,200	NP	NP	<100
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	11/10/1995	.25 feet free product		NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	9/19/1997	1,260	4,220	1,860	7,630	NP	NP	NS
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	4/15/1998	984	2,470	967	4,730	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	9/8/1998	1,370	3,930	1,680	6,800	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	2/9/1999	534	1,230	665	2,640	NP	NP	<10
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	10/2/2002	0.02 feet free product		NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	9/22/2003	0.13 feet free product		NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	2/4/2004	No free product found		NP	NP	NP	NP	NP
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	MW-IGWA	6/28/2004	2,400	6,900	1,300	7,200	40	NP	<50
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	SEWER	4/15/1998	4,130	1,710	1,260	5,150	NP	NP	ND
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	SEWER #1	9/24/2003	1,100	110	250	315	NP	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Royle Road Associates, UST Permit #14496	Release was reported on January 3, 1992.	SEWER #2	9/24/2003	1,200	420	290	650	NP	NP	<100
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-1	3/27/2000	9,810	78,500	5,020	25,520	NP	NP	<100
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-1	10/24/2000	10,000	23,000	4,600	22,000	890	NP	<100
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-1	9/23/2003	3,900	23,000	5,400	31,000	NP	NP	<25
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-1	5/20/2004	3,800	26,000	5,900	33,000	450	NP	<250
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-1	9/22/2004	4,700	44,000	5,100	28,700	640	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-2	10/24/2000	<1	<1	<1	<1	<1	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-2	9/23/2003	<1	<5	<1	<3	NP	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-2	5/20/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-2	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-3	10/24/2000	<1	<1	<1	<1	<1	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-3	9/23/2003	<1	<5	1	8	NP	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-3	5/20/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-3	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-4	10/24/2000	<1	<1	<1	<1	<1	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-4	9/23/2003	<1	<5	2	14	NP	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-4	5/20/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-4	9/22/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-5	9/23/2003	<1	<5	<1	<3	NP	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-5	5/20/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-6	9/23/2003	<1	<5	<1	<3	NP	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-6	5/20/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-7	9/23/2003	<1	<5	<1	<3	NP	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-7	5/20/2004	<1	<1	<1	<1	<0.02	NP	<5
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-8	9/23/2003	<1	<5	<1	<3	NP	NP	<1
S M Jones Property, UST Permit #18523	Release was reported on February 14, 2000. USTs were reportedly last used in 1969.	MW-8	5/20/2004	<1	<1	<1	<1	<0.02	NP	<5
Santee Block Company, UST Permit #16596	Not available.	DW-1	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	DW-1	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-1	3/29/2000	NP	NP	NP	NP	NP	NP	NP
Santee Block Company, UST Permit #16596	Not available.	MW-1	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-1	5/22/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-1	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-1	5/13/2004	<1	<1	<1	<1	<0.02	NP	<1
Santee Block Company, UST Permit #16596	Not available.	MW-10	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-10	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-10	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-11	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-11	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-11	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-11	5/13/2004	<1	<1	<1	<1	<0.02	NP	<1
Santee Block Company, UST Permit #16596	Not available.	MW-12	7/5/2001	5	<2	81	80	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-12	5/22/2003	<1	<1	7	1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-12	12/8/2003	<1	<1	38	19	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-12	5/13/2004	<1	<1	<1	<1	<0.02	NP	<1
Santee Block Company, UST Permit #16596	Not available.	MW-2	3/29/2000	23	1	13	4	<2	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-2	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-2	5/22/2003	<1	<1	1	2	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-2	12/8/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-2	5/13/2004	<1	<1	<1	<1	<0.02	NP	<1
Santee Block Company, UST Permit #16596	Not available.	MW-3	3/29/2000	323	1,830	876	4,690	<50	NP	<50
Santee Block Company, UST Permit #16596	Not available.	MW-3	7/5/2001	42	722	473	2,030	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-3	5/22/2003	102	1,520	711	2,530	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-3	12/8/2003	79	1,790	852	3,450	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-3	5/13/2004	88	1,780	801	3,110	1.92	NP	<25
Santee Block Company, UST Permit #16596	Not available.	MW-4	3/29/2000	<2	<2	<2	<6	<2	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-4	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-4	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-4	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-5	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-5	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-5	12/8/2003	1	<1	5	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-6	7/5/2001	<2	<2	<2	<6	NP	NP	<2

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Santee Block Company, UST Permit #16596	Not available.	MW-6	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-6	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-7	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-7	5/22/2003	<1	<1	8	9	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-7	12/8/2003	<1	<1	4	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-7	5/13/2004	<1	<1	1	<1	<0.02	NP	<1
Santee Block Company, UST Permit #16596	Not available.	MW-8	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-8	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-8	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-9	7/5/2001	<2	<2	<2	<6	NP	NP	<2
Santee Block Company, UST Permit #16596	Not available.	MW-9	5/22/2003	<1	<1	1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	MW-9	12/8/2003	<1	<1	<1	<1	NP	NP	<5
Santee Block Company, UST Permit #16596	Not available.	TMW-1	5/16/1994	543	803	441	1,630	NP	NP	NP
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	DW-1	10/21/1997	50	21	20	106	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	DW-1	4/27/1998	38	6	11	70	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	DW-1	8/12/2003	covered by water		NP	NP	NP	NP	NP
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-1	1/24/1997	15	9	2	25	NP	NP	6
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-1	6/23/1997	<1	<1	<1	<1	<1	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-1	10/21/1997	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-1	4/27/1998	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-1	8/12/2003	<5	<5	3	<15	0.45	NP	<5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-2	6/23/1997	<1	<1	<1	<1	<1	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-2	10/21/1997	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-2	4/27/1998	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-2	8/12/2003	<5	5	3	9	<0.02	NP	<5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-3	6/23/1997	28	15	11	89	<1	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-3	10/21/1997	139	30	7	171	2	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-3	4/27/1998	11	2	<1	38	<0.02	NP	5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-3	8/12/2003	<5	<5	<5	<15	<0.02	NP	<5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-4	6/23/1997	23,000	30,000	2,000	9,760	1,140	NP	<100
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-4	10/21/1997	15,800	21,700	2,040	10,400	469	NP	<180
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-4	4/27/1998	17,100	36,000	14,400	99,000	471	NP	<900
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-4	8/12/2003	covered by water		NP	NP	NP	NP	NP
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-5	10/21/1997	38	105	67	251	0.14	NP	11
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-5	4/27/1998	22	40	31	150	0.12	NP	6
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-5	8/12/2003	<5	<5	<5	<15	<0.02	NP	<5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-6	10/21/1997	1	3	<1	10	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-6	4/27/1998	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-6	8/12/2003	<5	<5	<5	<15	<0.02	NP	<5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-7	10/21/1997	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-7	4/27/1998	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-7	8/12/2003	<5	<5	<5	<15	<0.02	NP	<5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-8	10/21/1997	<1	<1	<1	2	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-8	4/27/1998	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	MW-8	8/12/2003	<5	<5	<5	<15	<0.02	NP	<5
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	WW-1	10/21/1997	<1	<1	<1	<1	<0.02	NP	<1
Tillman Johnson, UST Permit #08484	Release was reported on March 25, 1992.	WW-1	4/27/1998	<1	<1	<1	<1	<0.02	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	DW-1	5/14/2003	2240	8370	972	5420	NP	NP	227
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	DW-1	2/2/2004	43	74	22	56	<0.02	NP	3.8
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	DW-2	5/14/2003	<1	1	<1	<2	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	DW-2	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	McElveens well	5/14/2003	not sampled		NP	NP	NP	NP	NP
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	McElveens well	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-1	5/14/2003	7550	36000	3000	18800	NP	NP	980
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-1	2/2/2004	990	4000	660	2990	0.71	NP	150

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-10	5/14/2003	389	89.5	122	292	NP	NP	198
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-10	2/2/2004	360	110	170	440	<0.02	NP	130
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-11	5/14/2003	16.6	3.7	2.3	7.2	NP	NP	3.4
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-11	2/2/2004	1900	3500	620	1720	0.73	NP	120
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-12	5/14/2003	<1	1.2	<1	1.5	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-12	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-2	5/14/2003	<1	<1	<1	<1	NP	NP	2.4
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-2	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-3	5/14/2003	<1	4.5	<1	3	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-3	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-4	5/14/2003	74.2	386	122	261	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-4	2/2/2004	650	6400	87	5700	0.7	NP	<100
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-5	5/14/2003	641	5170	724	11700	NP	NP	5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-5	2/2/2004	2900	12000	3000	10700	2.3	NP	<100
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-6	5/14/2003	<1	<1	<1	<1	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-6	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-7	5/14/2003	<1	<1	<1	<1	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-7	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-8	5/14/2003	<1	<1	<1	<1	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-8	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-9	5/14/2003	<1	<1	<1	<1	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	MW-9	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	PW-1	5/14/2003	<1	<1	<1	<1	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	PW-1	2/2/2004	not sampled		NP	NP	NP	NP	NP
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	PW-2	5/14/2003	<1	<1	<1	<1	NP	NP	<1
Trinity Grocery	Release was reported on December 20, 1991. Two USTs were removed in November 1995.	PW-2	2/2/2004	<5	<5	<5	<15	<0.02	NP	<5
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-1	9/27/2000	386	5	9.5	66.5	NA	NP	22
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-1	7/22/2002	not sampled		NP	NP	NP	NP	NP
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-1	6/8/2004	56	7.6	<5	<18	29	NP	600
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-2	9/27/2000	1.2	1	1	1	NA	NP	1
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-2	7/22/2002	not sampled		NP	NP	NP	NP	NP

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-2: South Carolina EDB and EDC Data (1993-2004)
All concentrations are in ug/L

Site Name	UST Release Dates and Information	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-2	6/8/2004	<5	<5	<5	<15	<0.02	NP	<5
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-3	9/27/2000	1	1	1	1	NA	NP	1
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-3	7/22/2002	<5	<5	<5	<15	NA	NP	<5
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-3	6/8/2004	<5	<5	<5	<15	<0.02	NP	<5
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-4	9/27/2000	1	1	1	1	NA	NP	1
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-4	7/22/2002	<5	<5	<5	<15	<0.02	NP	<5
Union Maintenance	Release was reported on December 30, 1991. Nine USTs were removed, and two are still in use.	MW-4	6/8/2004	<5	<5	<5	<15	<0.02	NP	<5

BDL = Below detection limit
NA = Not available
ND = Not detected
NP = Not provided
Source: Reference 7-4

Appendix A-3: Santa Barbara County, California EDB and EDC Data (2001-2004)
All concentrations are in ug/L

Site Name	Well	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE
Chevron SS#9-1789	MW-3	9/5/2001	ND	15	ND	1,250	65	ND	216
FACILITY 11669, SITE 20, TANK #1	MW-5	2/13/2004	300.4	0.66	NP	7.09	ND	101	NP
FACILITY 11669, SITE 20, TANK #1	MW-5	2/13/2004	98.98	ND	ND	ND	1.04	39.5	ND
Former Circle K Store	MW1	1/4/2002	5	13	0.6	10	0.2	0.4	ND
Former Circle K Store	MW3	1/4/2002	97	110	3	52	3	12	2
JR's Gas	MW-6	10/28/2002	224	2.5	NP	NP	NP	NP	NP
JR's Gas	MW-6	10/28/2002	NR	NR	ND	ND	3.3	ND	238
Los Olivos Garage	MW5	2/1/2002	<5	2	130	50	<5	<5	<10
Milpas Arco	DW2	1/25/2002	280	210	120	110	<20	<20	1100
Milpas Arco	MW11	1/25/2002	2100	53	970	1100	<100	<100	6000
Milpas Arco	MW11	1/25/2002	2200	60	1000	1200	<50	NP	6200
Milpas Arco	MW14	1/25/2002	100	72	<20	3900	<20	<20	68
Milpas Arco	MW15	1/25/2002	<5	<5	<5	<7.5	<5	<5	190
Milpas Arco	MW17	1/25/2002	56	<20	<20	150	<20	<20	1300
Milpas Arco	MW18	1/25/2002	<2	<2	2	3.7	<2	0.9	150
Modoc Properties	MW6	10/31/2001	<50	20	2300	5900	<50	<50	<100
TOSCO - 76 ss#5241	MW-18	3/7/2003	120	310	37	290	0.084	ND	ND

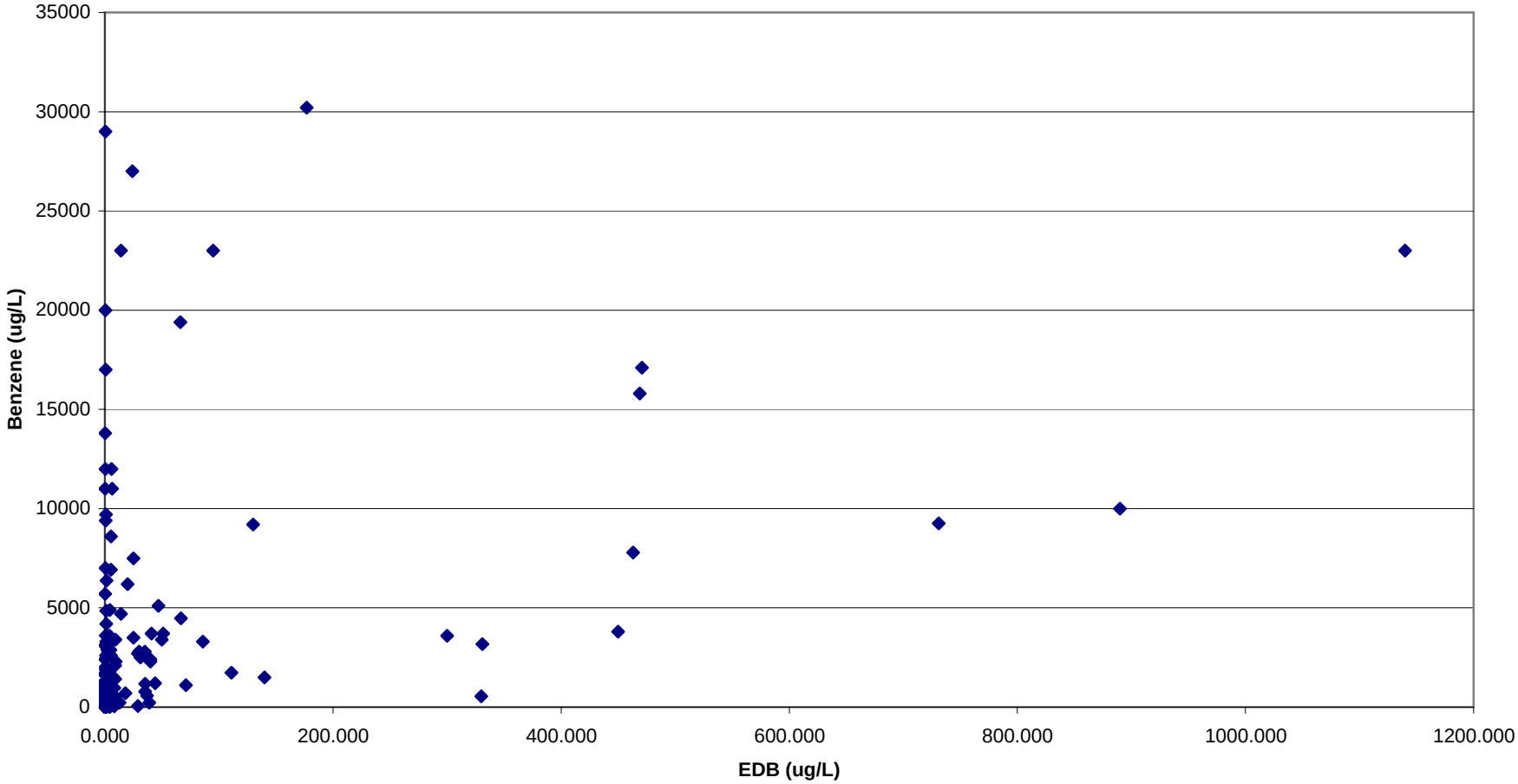
ND = Not detected
NP = Not provided
NR = Not reported
Source: Reference 7-1

Appendix A-4: EPA Region 8 Federal Lead Corrective Action Sites
EDB and EDC Data (2004)
All concentrations are in ug/L

Site Name, State	Tank Installation	Tank Closure	Sample Date	EDB	EDC
Chuck's Conoco, ND	1949, 1976	1999	2/20/2004	<0.05	<1.0
			5/18/2004	<0.05	<1.0
Standing Rock Gaming Authority, ND	1926	1980	2/24/2004	<0.05	5.4 (MW4) 1.0 (MW12)
			5/26/2004	<0.05	2.89 (MW7)
Lantry, SD	1958, 1984, 1988, 1993		2/25/2004	<0.05	3.4 (MW4) 2.0 (MW8)
			5/26/2004	<0.05	5.08 (MW1A) 3.44 (MW4) 2.34 (MW8)
Zephier's Video and Gas, SD	1979	1994	3/23/2004	0.05 (MW1)	<1.0
			5/4/2004	0.09 (MW1)	<1.0
K&S Auto, WY			3/17/2004	<0.05	2.35 (MW7)
Denby, SD	1960's	1997	3/24/2004	0.07 (MW2)	<1.0
Custer's Last Camp, MT	1940, 1985	1999	5/12/2004	<0.05	8.25 (MW4) 2.96 (MW6)
Timber Lake, SD	multiple sources dating from the 1960's	1980's	5/6/2004	<0.05	2.11 (MW2) 3.35 (MW5) 12.1 (MW8) 13.1 (MW15) 2.35 (City1)

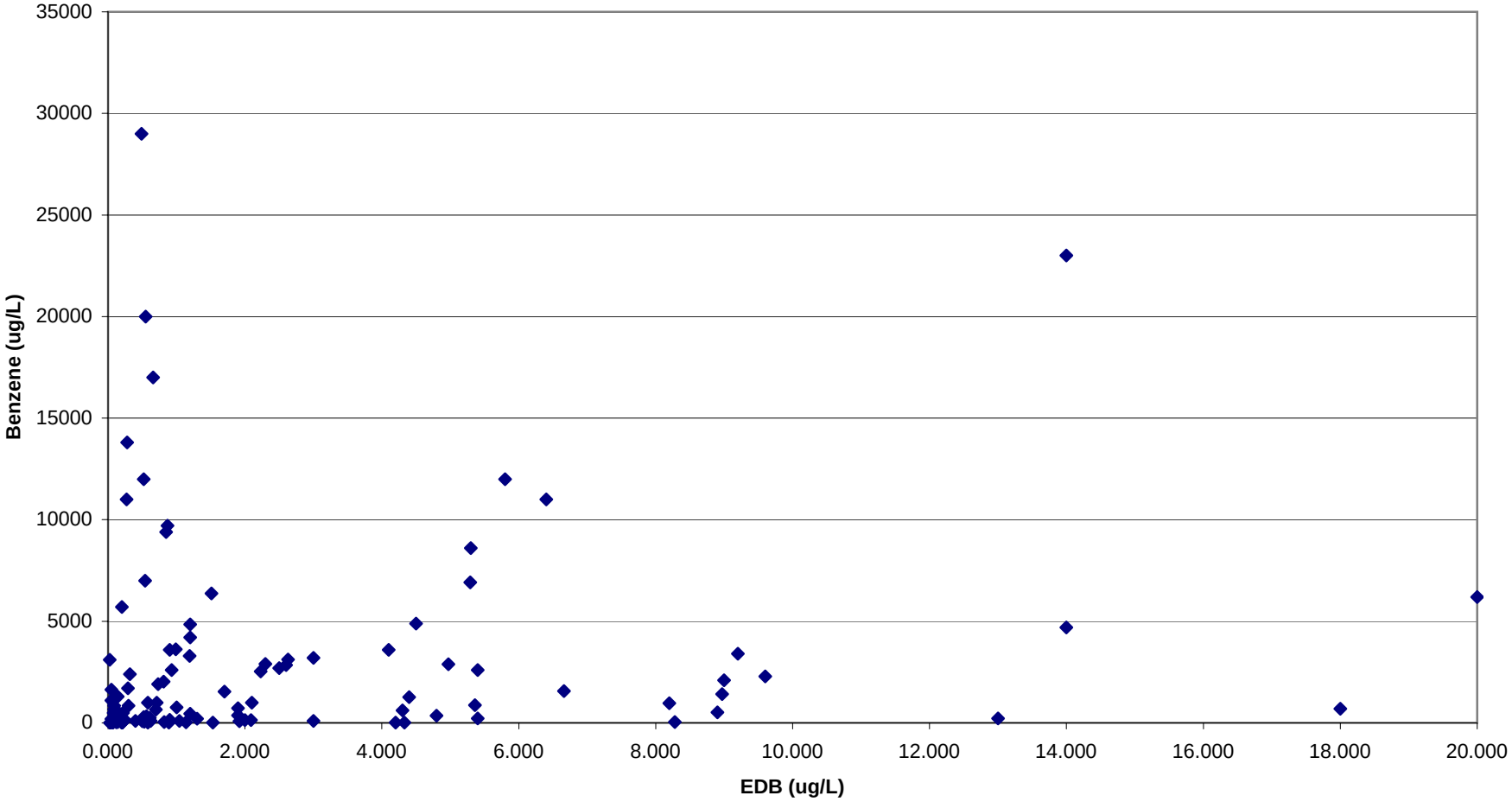
Source: Reference 7-5

Appendix A-5, Figure 1: Groundwater Monitoring Results for EDB and Benzene (151 data points)



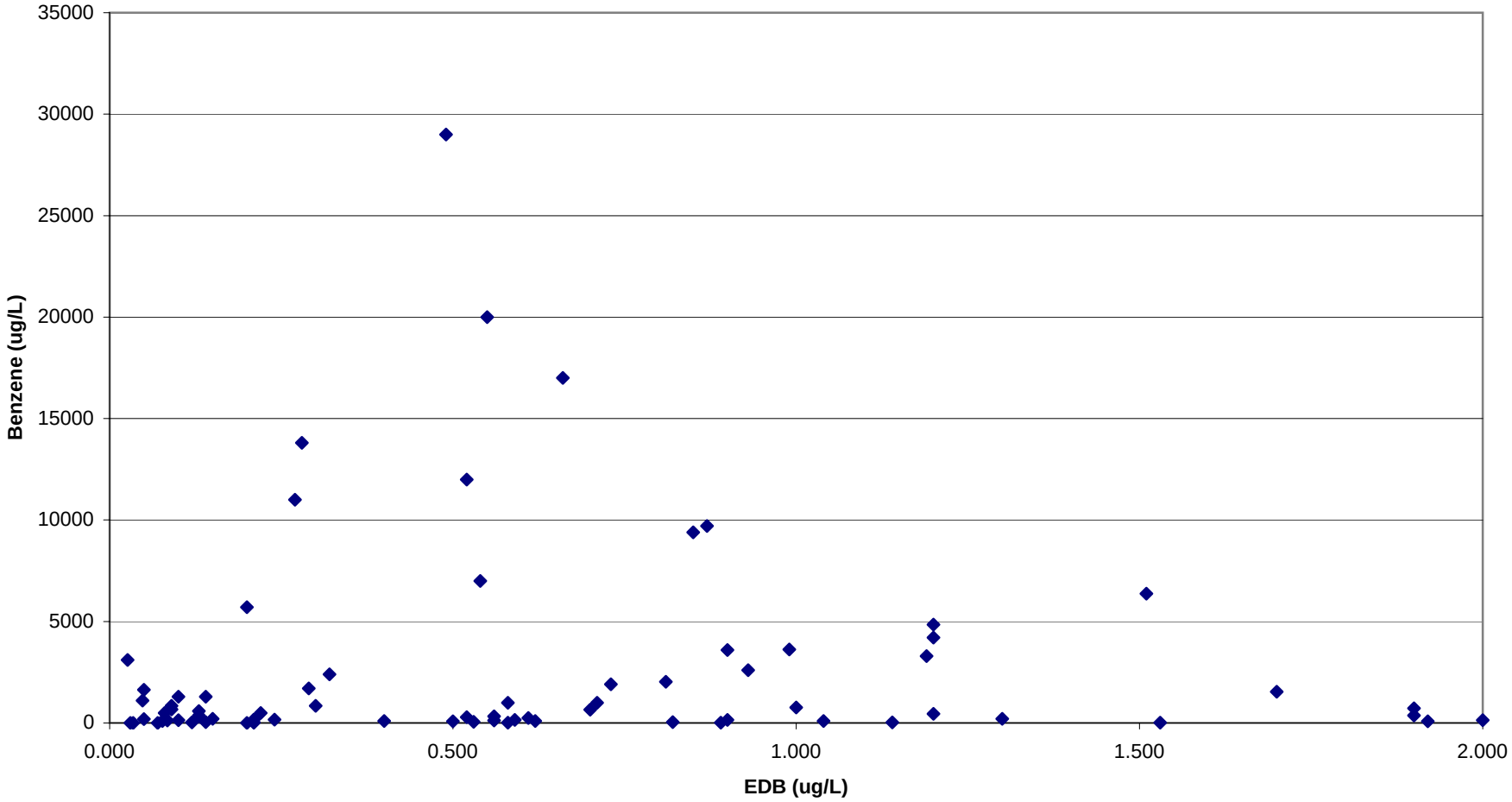
Each data point represents an individual groundwater monitoring sample (collected from a particular well on a specific date).
Sources: (1) Analytical data for sites in California. Data available at https://geotracker.swrcb.ca.gov/. Accessed on August 26, 2004.
(2) South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical data for sites in South Carolina. Spreadsheets emailed from Read Miner, SCDHEC, to Danielle Wohler, Tetra Tech EM Inc. August 27, 2004.

Appendix A-5, Figure 2: Groundwater Monitoring Results for EDB (<20 ug/L) and Benzene (141 data points)



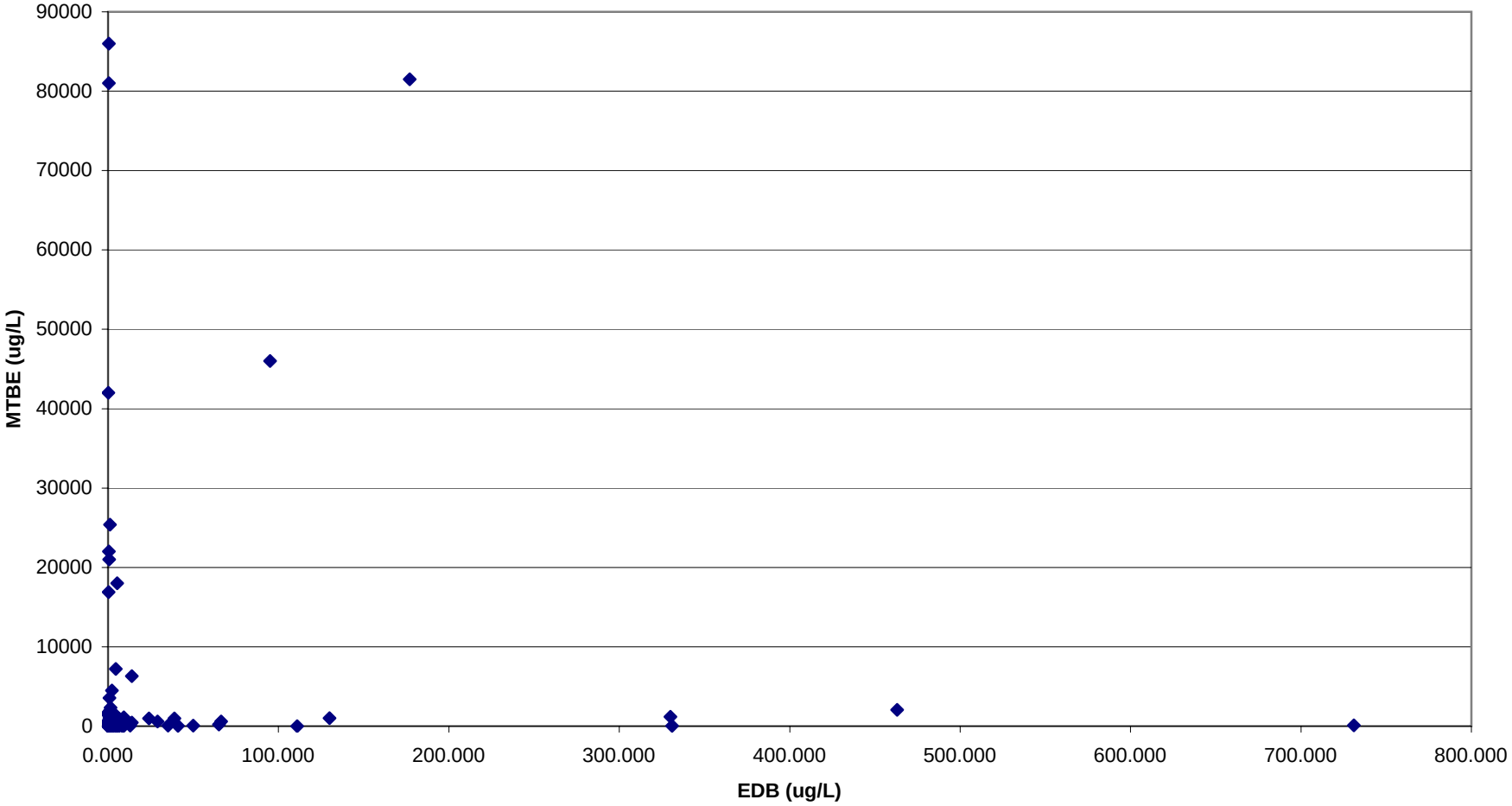
Each data point represents an individual groundwater monitoring sample (collected from a particular well on a specific date).
Sources: (1) Analytical data for sites in California. Data available at https://geotracker.swrcb.ca.gov/. Accessed on August 26, 2004.
(2) South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical data for sites in South Carolina. Spreadsheets emailed from Read Miner, SCDHEC, to Danielle Wohler, Tetra Tech EM Inc. August 27, 2004.

Appendix A-5, Figure 3: Groundwater Monitoring Results for EDB (<2 ug/L) and Benzene (76 points)



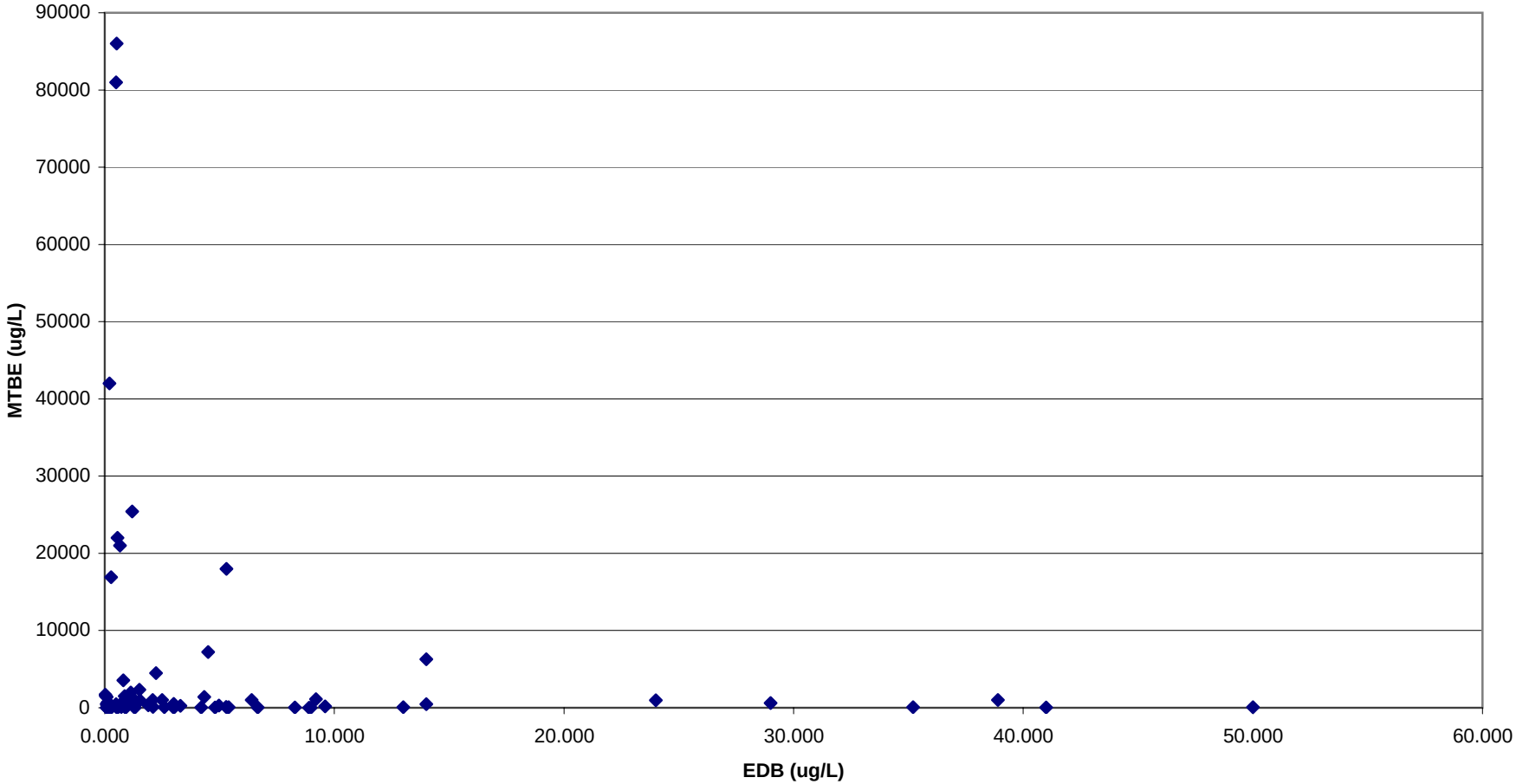
Each data point represents an individual groundwater monitoring sample (collected from a particular well on a specific date).
Sources: (1) Analytical data for sites in California. Data available at https://geotracker.swrcb.ca.gov/. Accessed on August 26, 2004.
(2) South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical data for sites in South Carolina. Spreadsheets emailed from Read Miner, SCDHEC, to Danielle Wohler, Tetra Tech EM Inc. August 27, 2004.

Appendix A-5, Figure 4: Groundwater Monitoring Results for EDB and MTBE (83 data points)



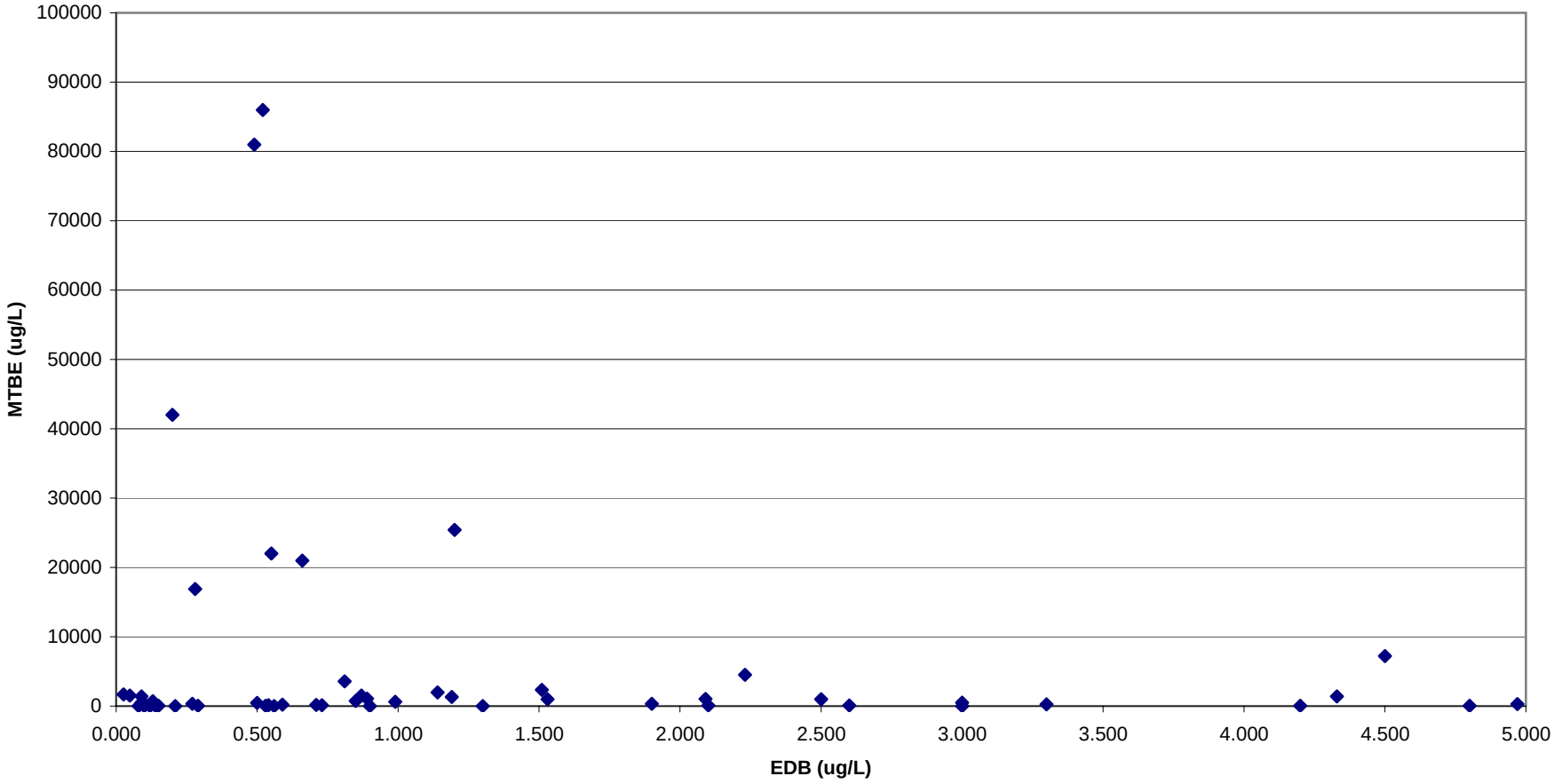
Each data point represents an individual groundwater monitoring sample (collected from a particular well on a specific date).
Sources: (1) Analytical data for sites in California. Data available at https://geotracker.swrcb.ca.gov/. Accessed on August 26, 2004.
(2) South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical data for sites in South Carolina. Spreadsheets emailed from Read Miner, SCDHEC, to Danielle Wohler, Tetra Tech EM Inc. August 27, 2004.

Appendix A-5, Figure 5: Groundwater Monitoring Results for EDB (<50 ug/L) and MTBE (73 data points)



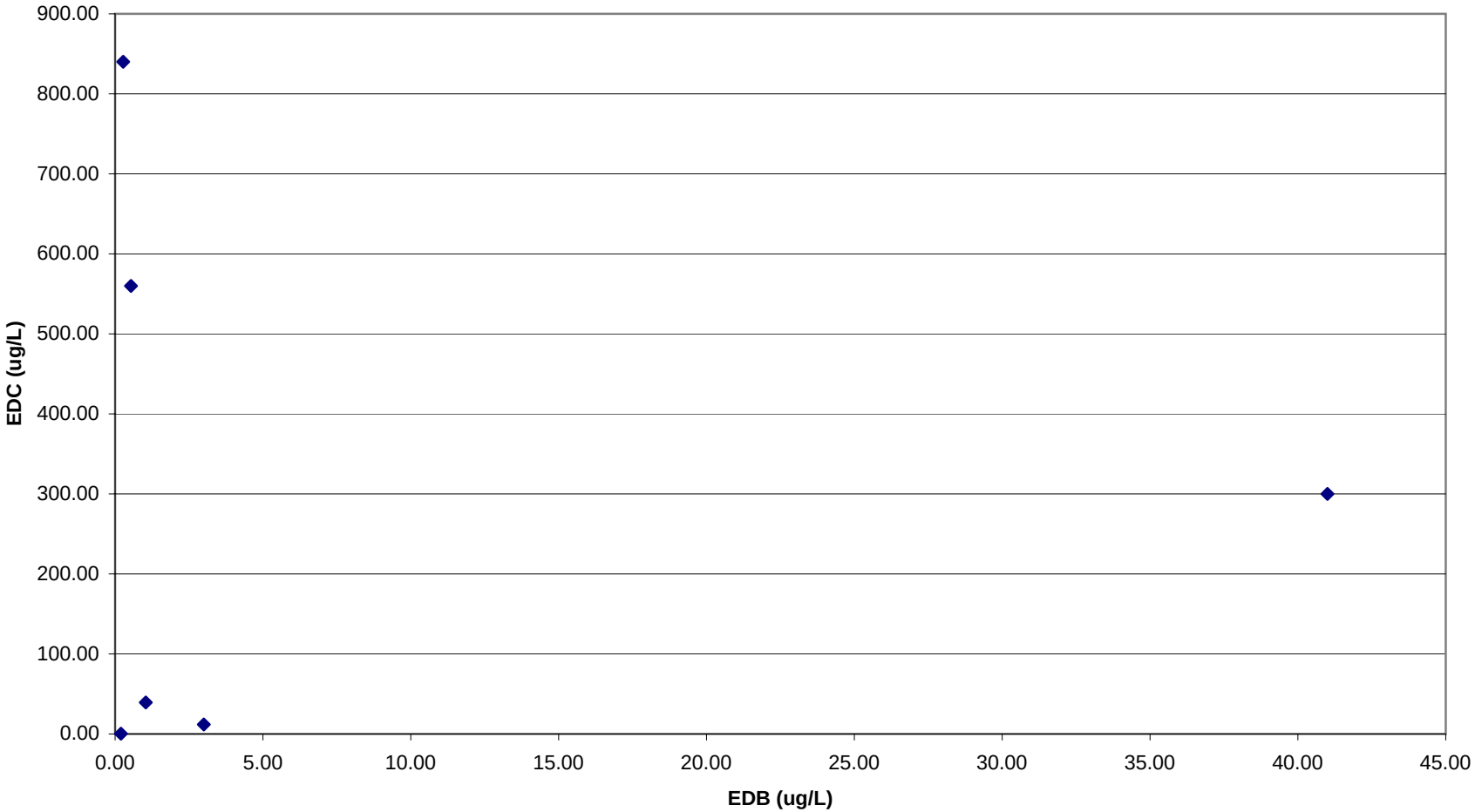
Each data point represents an individual groundwater monitoring sample (collected from a particular well on a specific date).
Sources: (1) Analytical data for sites in California. Data available at https://geotracker.swrcb.ca.gov/. Accessed on August 26, 2004.
(2) South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical data for sites in South Carolina. Spreadsheets emailed from Read Miner, SCDHEC, to Danielle Wohler, Tetra Tech EM Inc. August 27, 2004.

Appendix A-5, Figure 6: Groundwater Monitoring Results for EDB (<5 ug/L) and MTBE (53 data points)



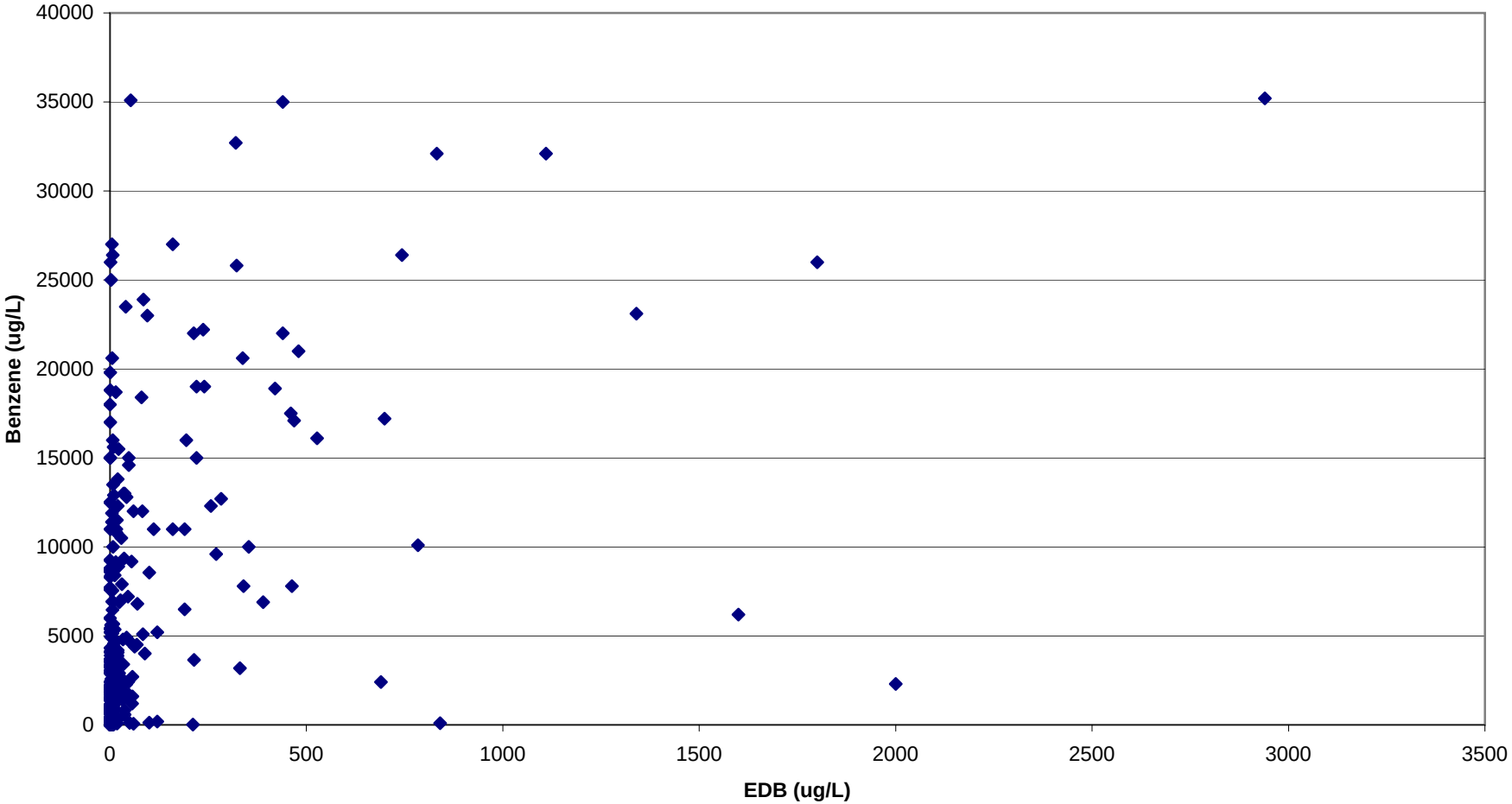
Each data point represents an individual groundwater monitoring sample (collected from a particular well on a specific date).
Sources: (1) Analytical data for sites in California. Data available at https://geotracker.swrcb.ca.gov/. Accessed on August 26, 2004.
(2) South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical data for sites in South Carolina. Spreadsheets emailed from Read Miner, SCDHEC, to Danielle Wohler, Tetra Tech EM Inc. August 27, 2004.

Appendix A-5, Figure 7: Groundwater Monitoring Results for EDB and EDC (6 data points)



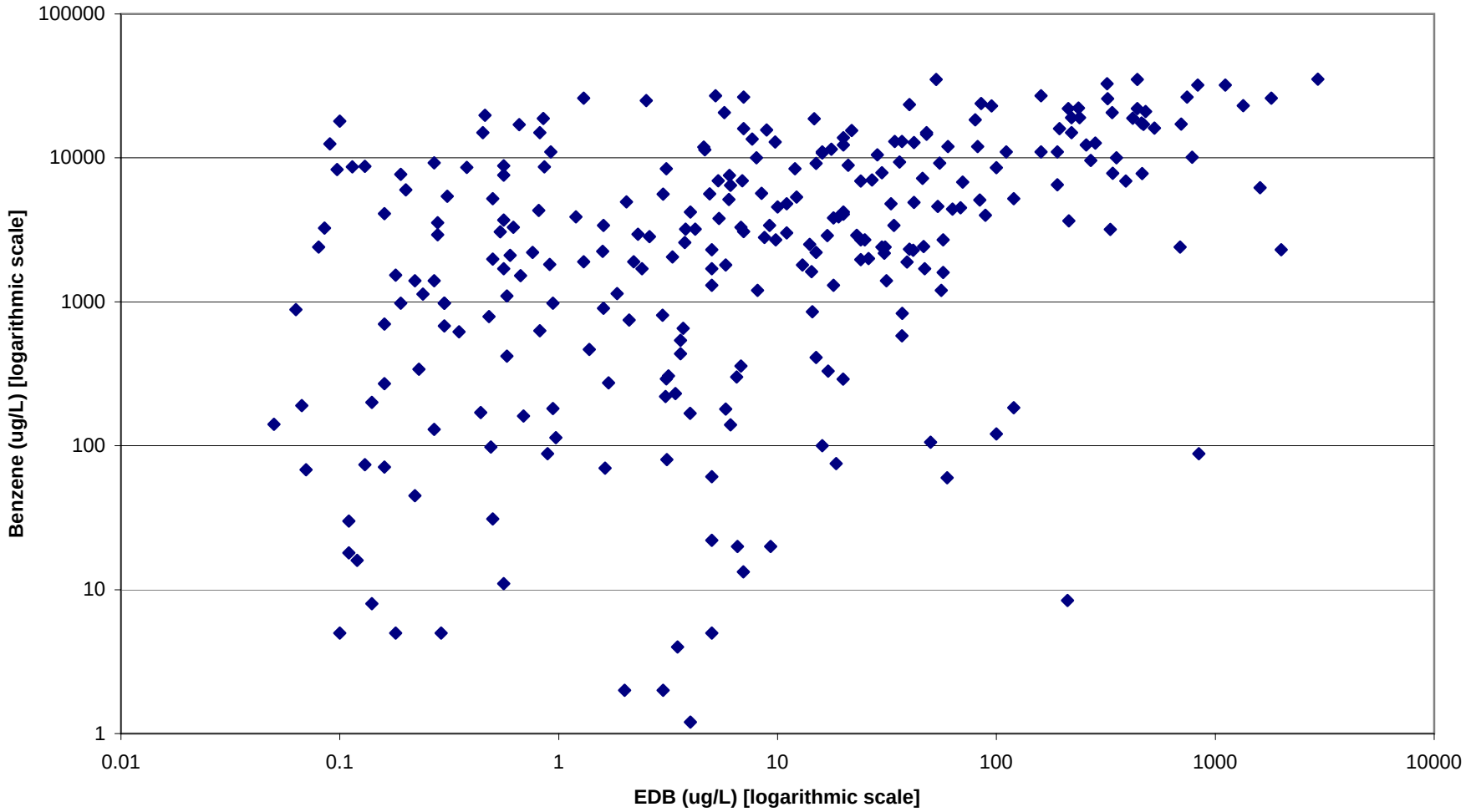
Each data point represents an individual groundwater monitoring sample (collected from a particular well on a specific date).
Sources: (1) Analytical data for sites in California. Data available at https://geotracker.swrcb.ca.gov/. Accessed on August 26, 2004.
(2) South Carolina Department of Health and Environmental Control (SCDHEC). 2004. Analytical data for sites in South Carolina. Spreadsheets emailed from Read Miner, SCDHEC, to Danielle Wohler, Tetra Tech EM Inc. August 27, 2004.

Appendix A-6, Figure 1: Groundwater Monitoring Results for EDB and Benzene



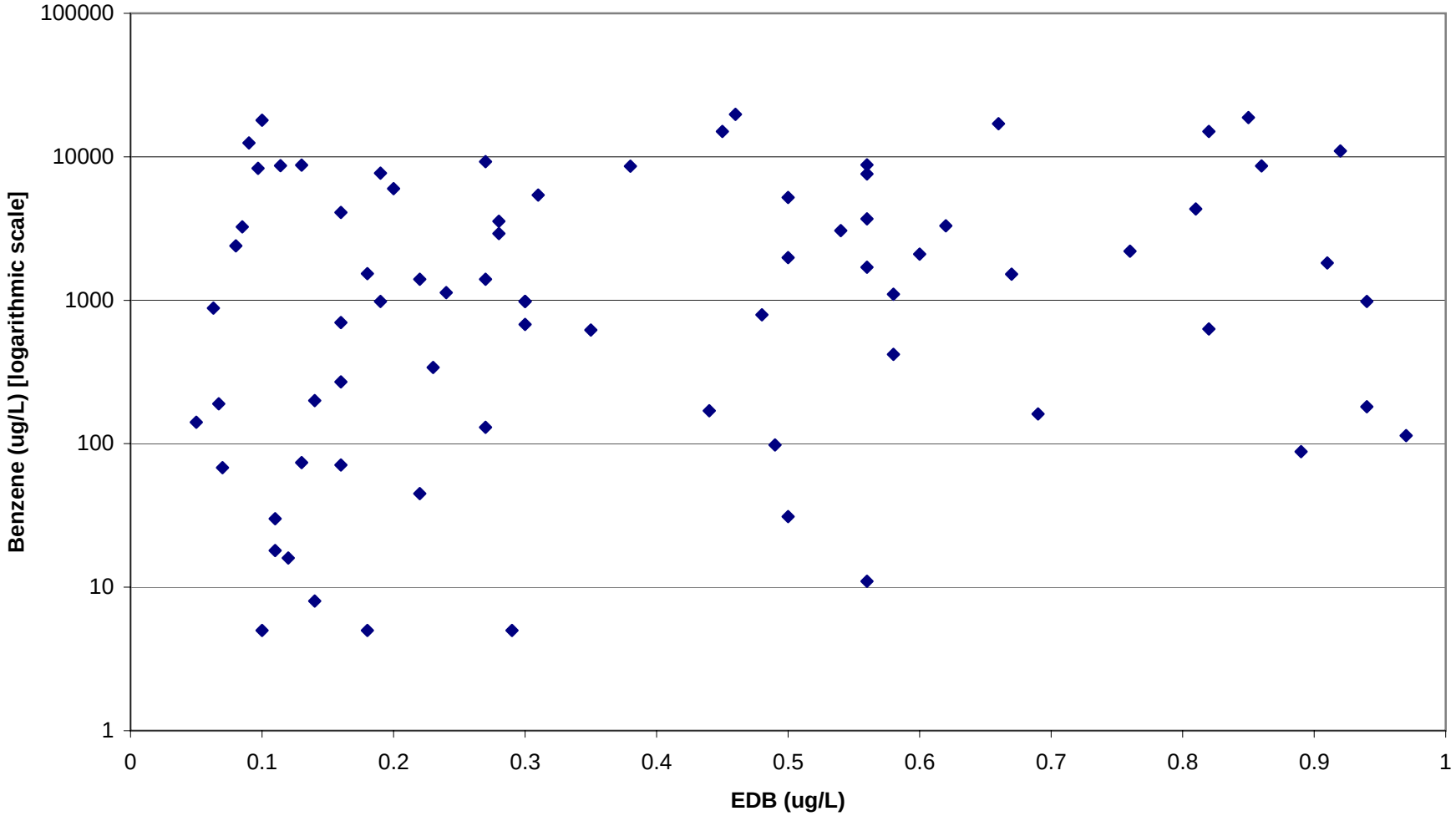
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 2: Groundwater Monitoring Results for EDB and Benzene



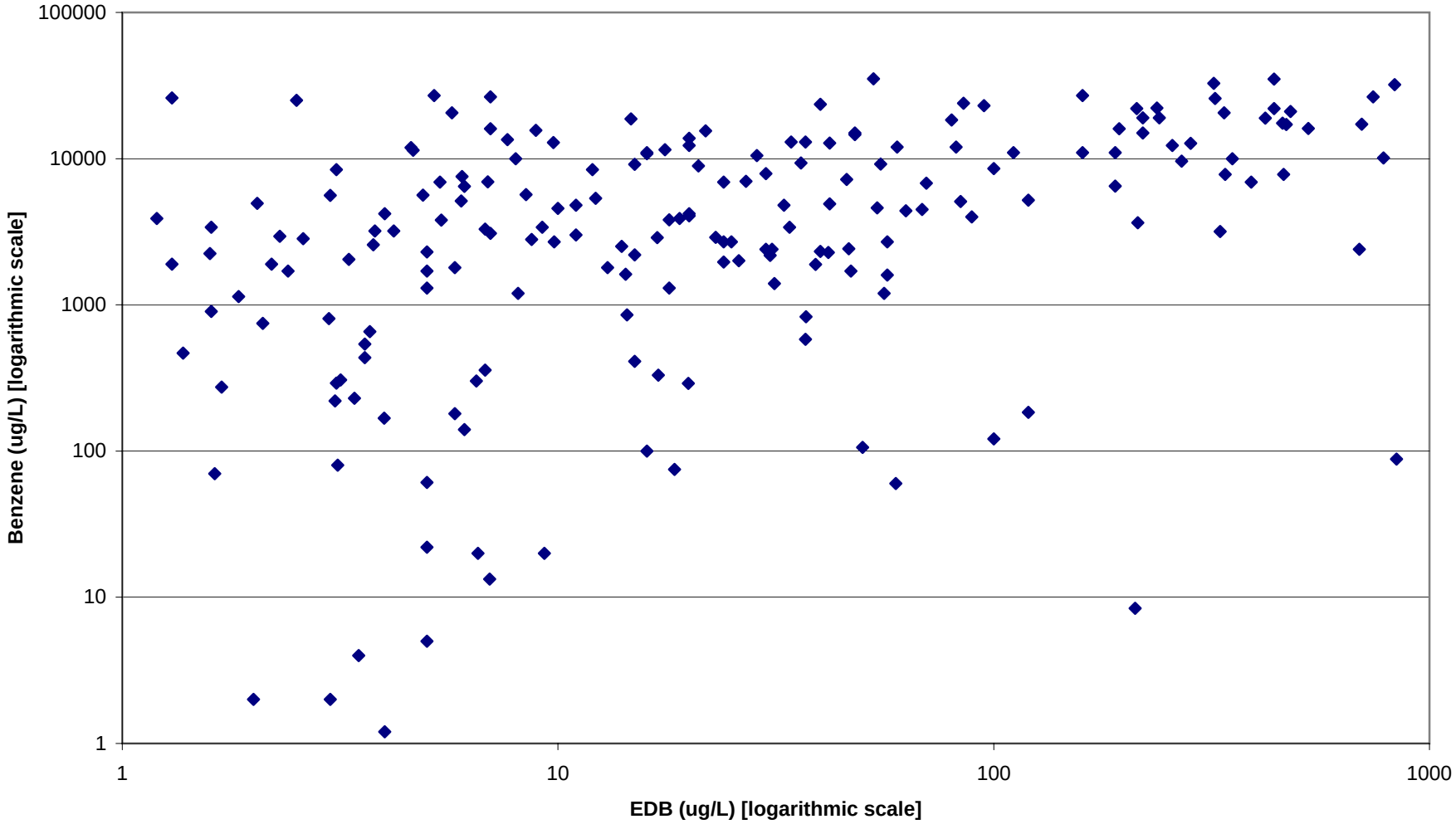
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 3: Groundwater Monitoring Results for EDB (0.01-1 ug/L) and Benzene



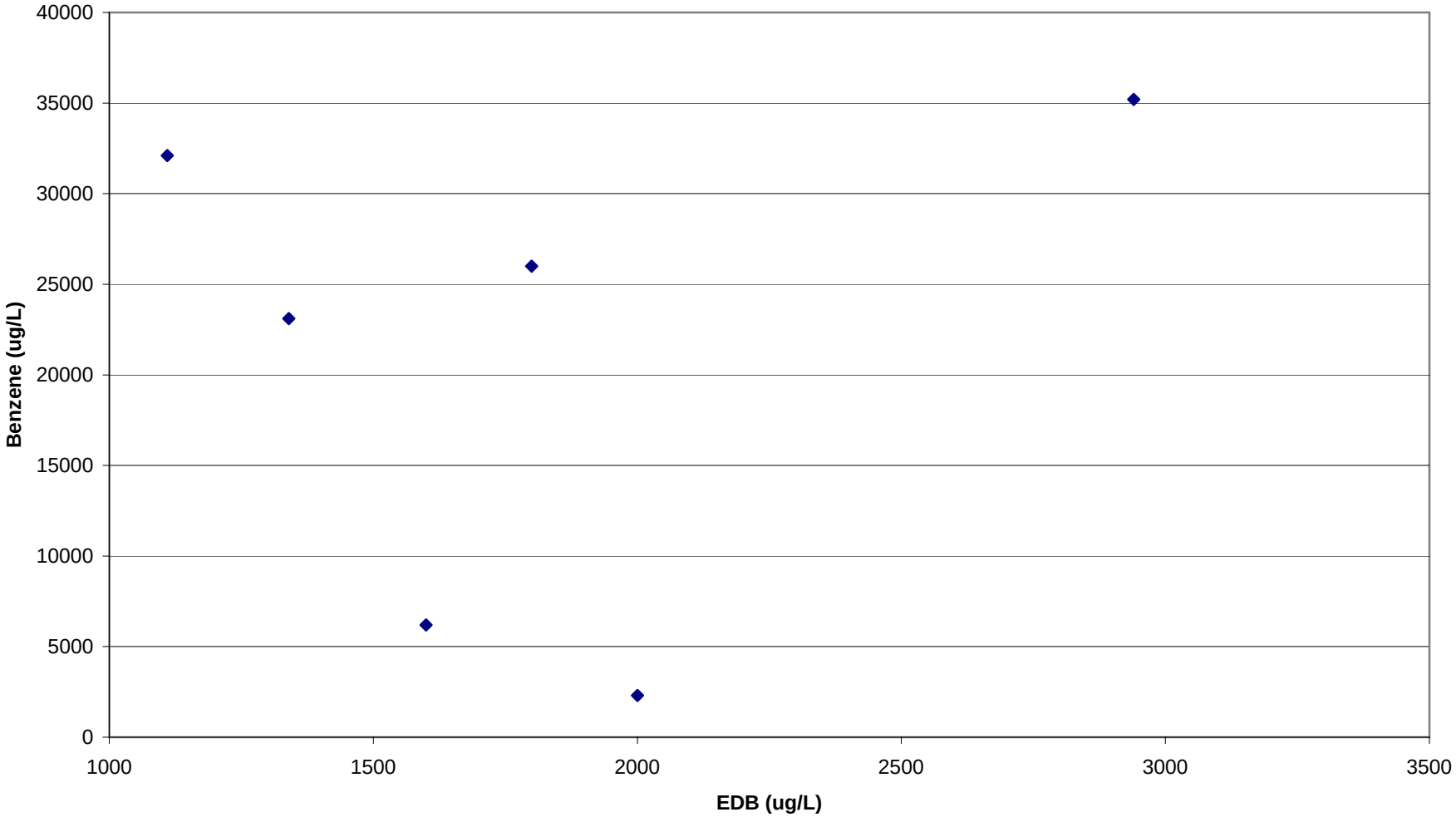
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 4: Groundwater Monitoring Results for EDB (1-1,000 ug/L) and Benzene



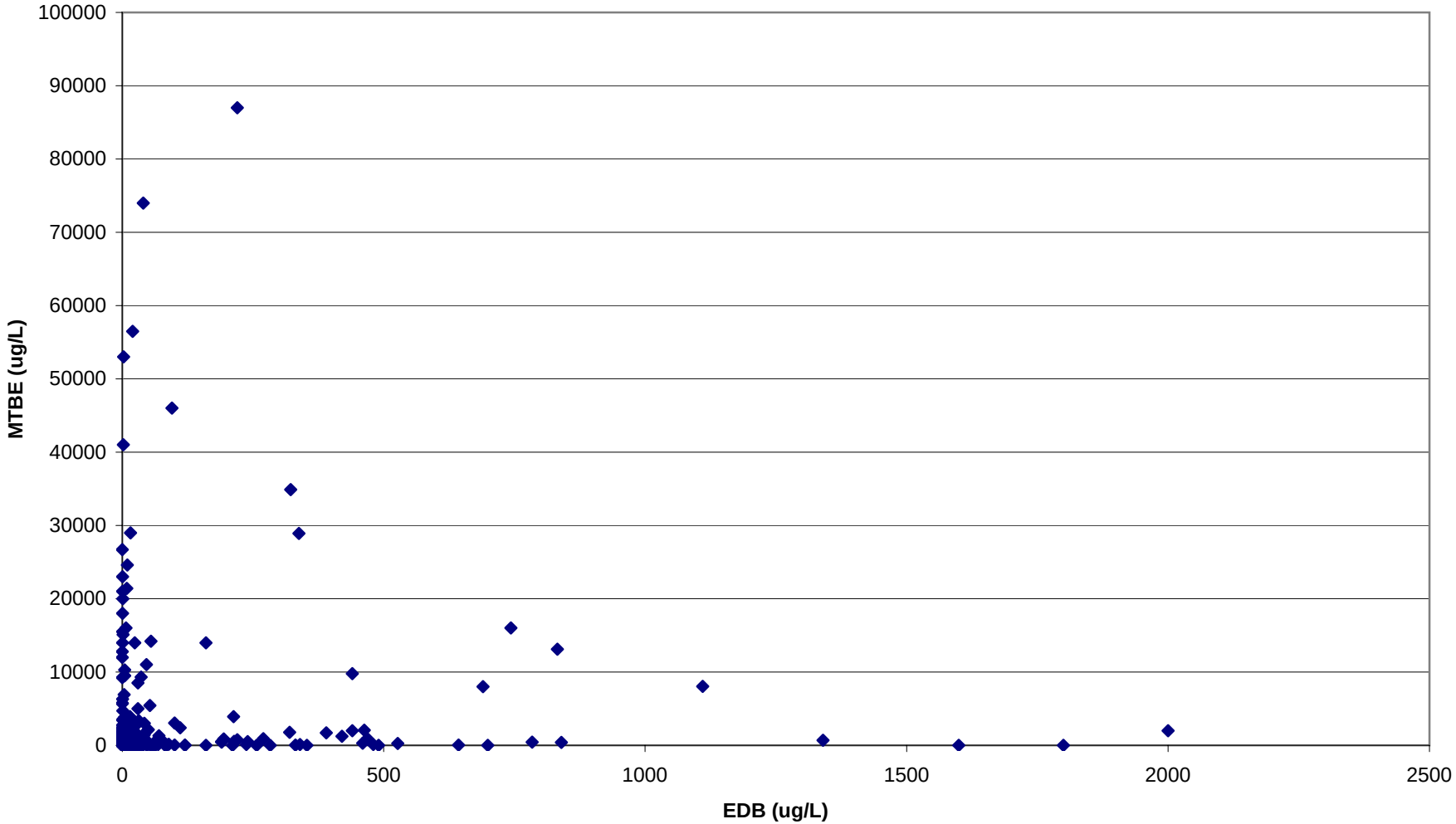
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 5: Groundwater Monitoring Results for EDB (>1,000 ug/L) and Benzene



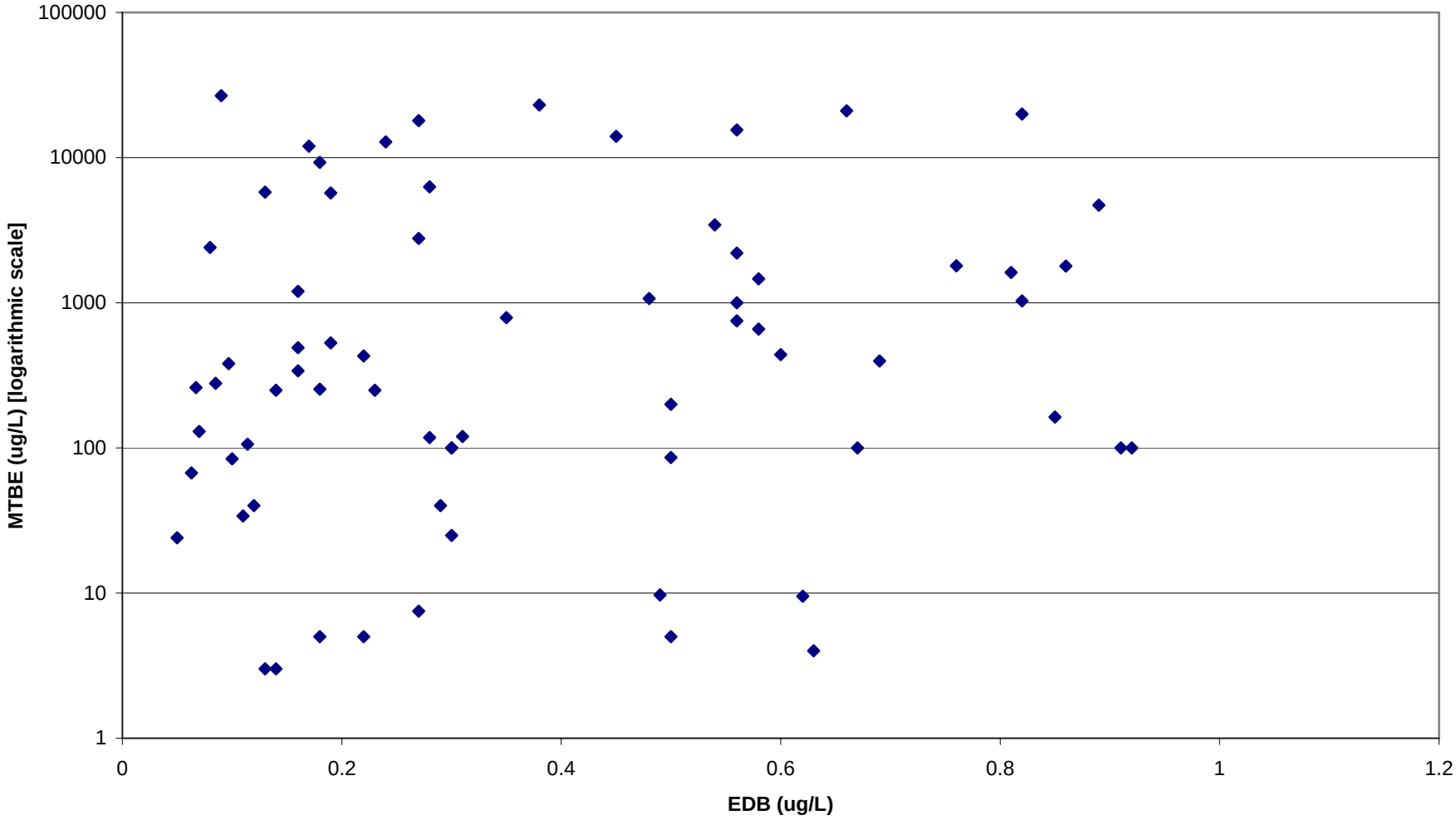
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 6: Groundwater Monitoring Results for EDB and MTBE



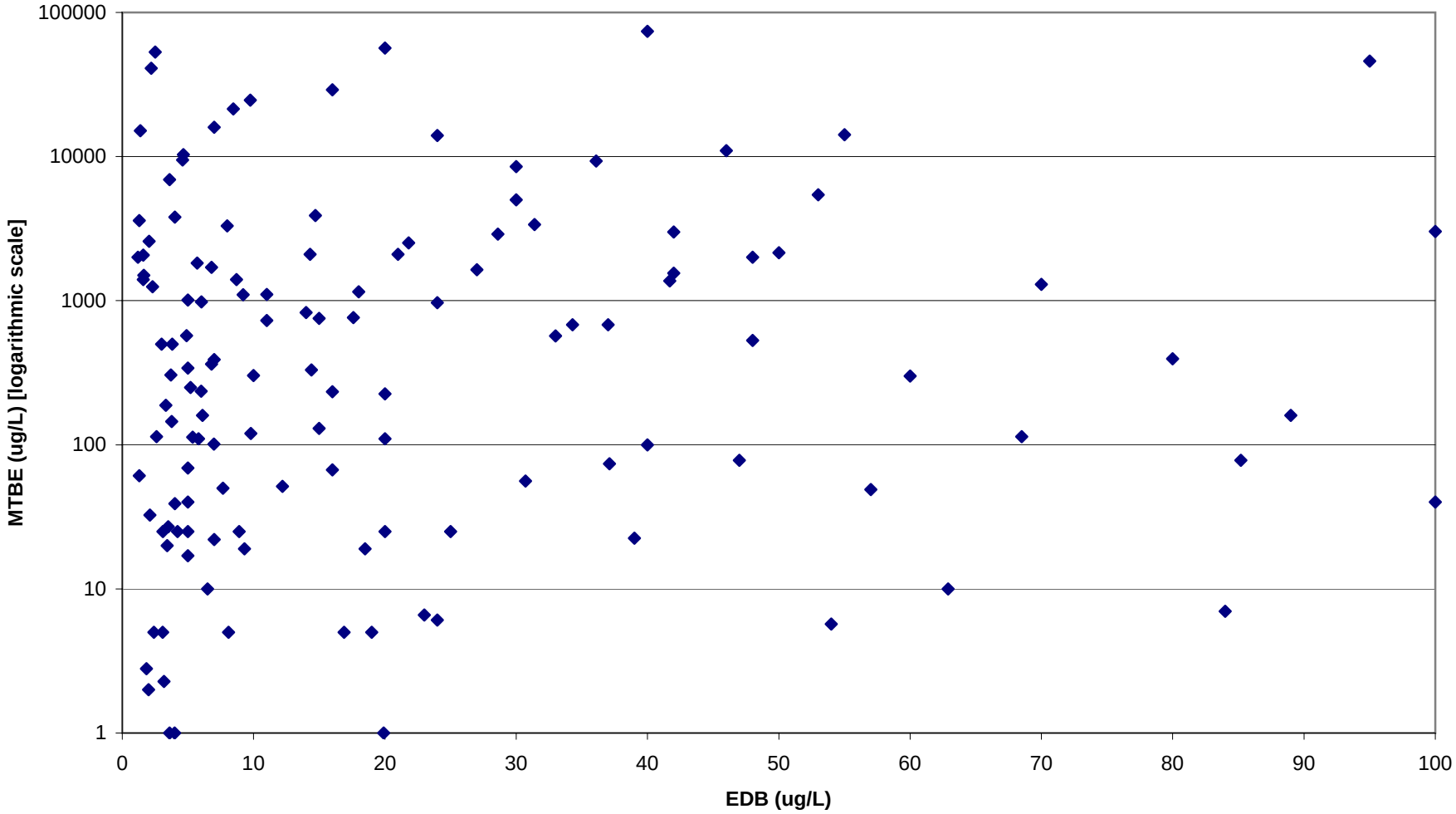
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 7: Groundwater Monitoring Results for EDB (<1 ug/L) and MTBE



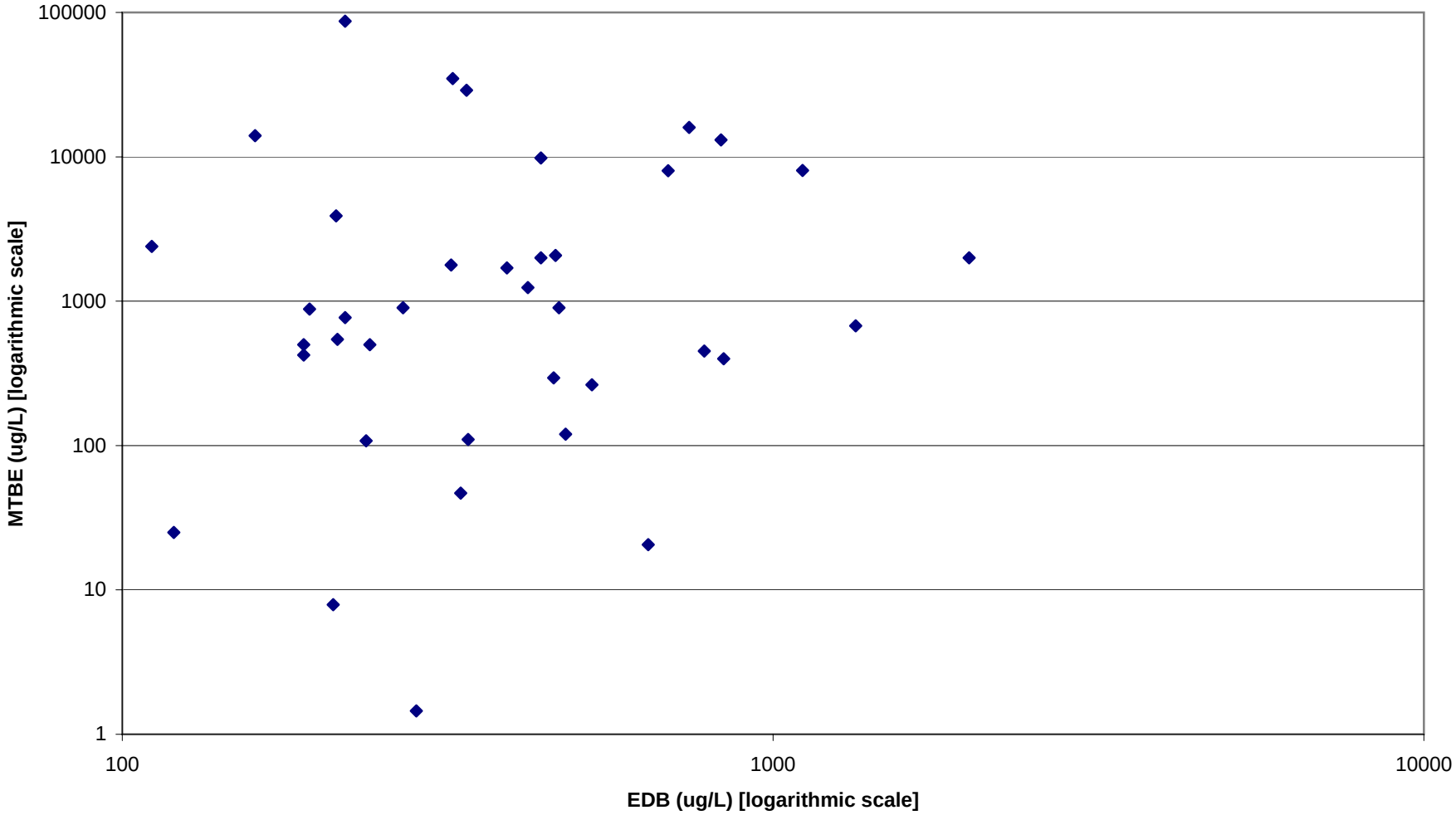
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 8: Groundwater Monitoring Results for EDB (1-100 ug/L) and MTBE



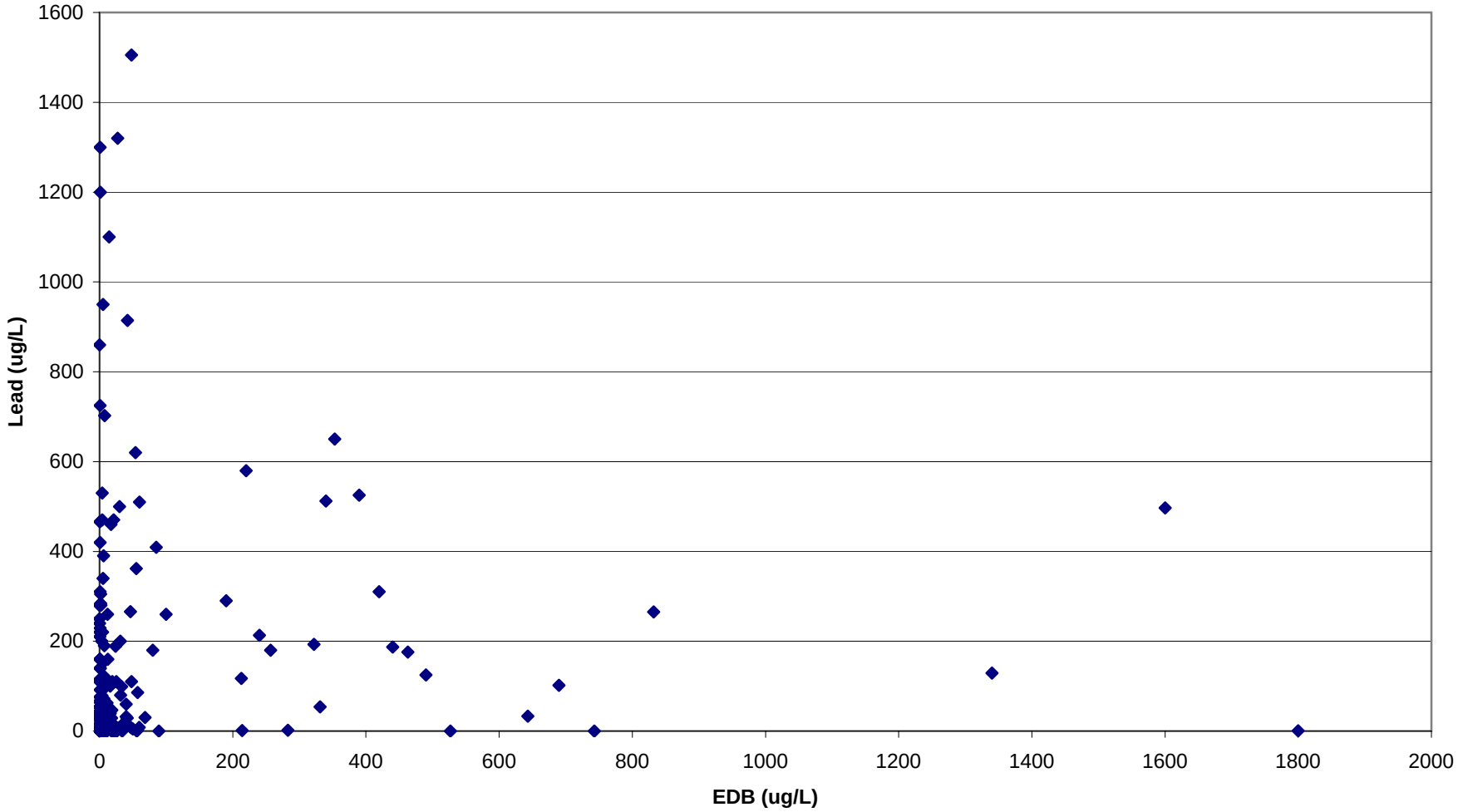
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 9: Groundwater Monitoring Results for EDB (>100 ug/L) and MTBE



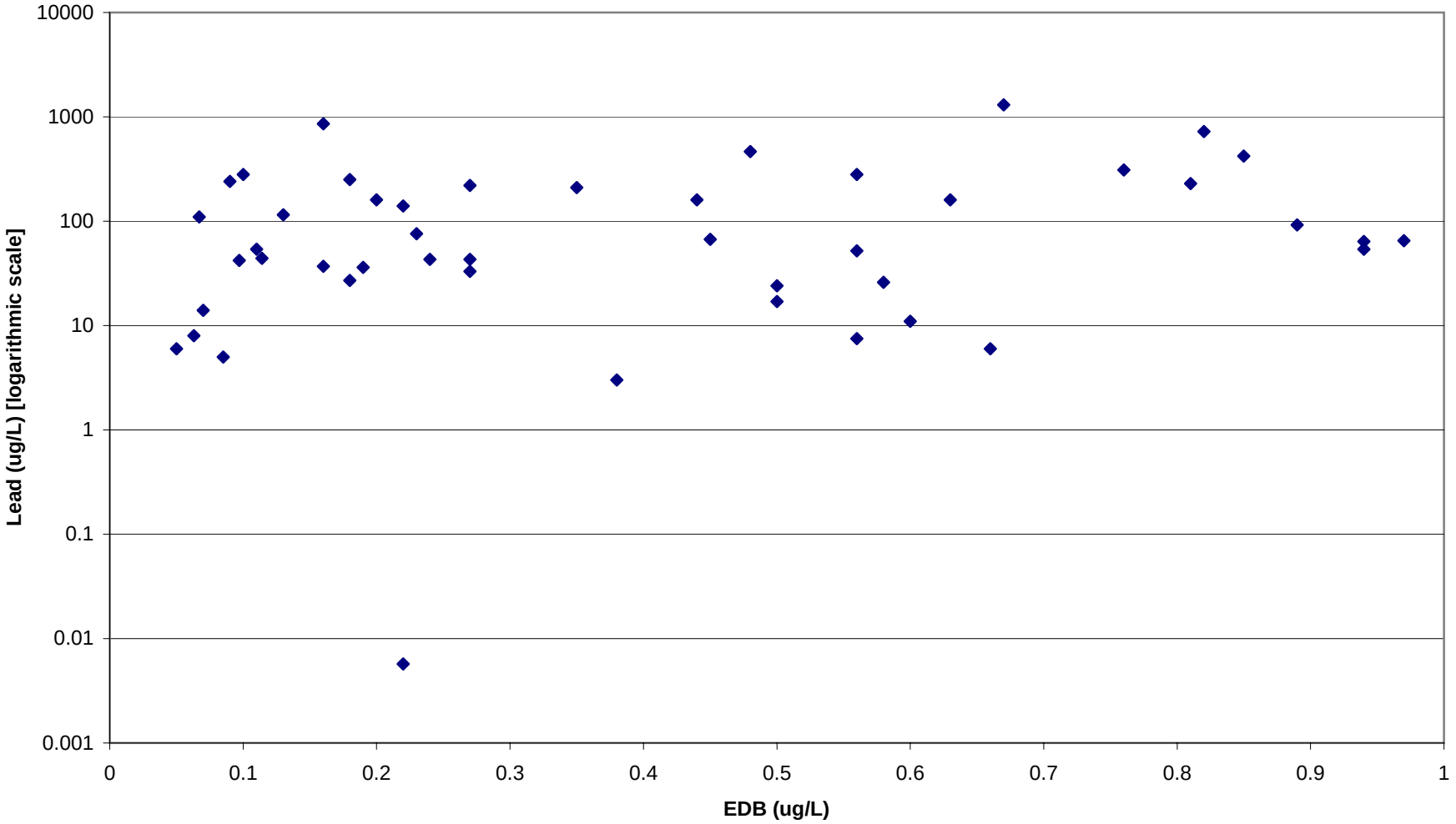
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 10: Groundwater Monitoring Results for EDB and Lead



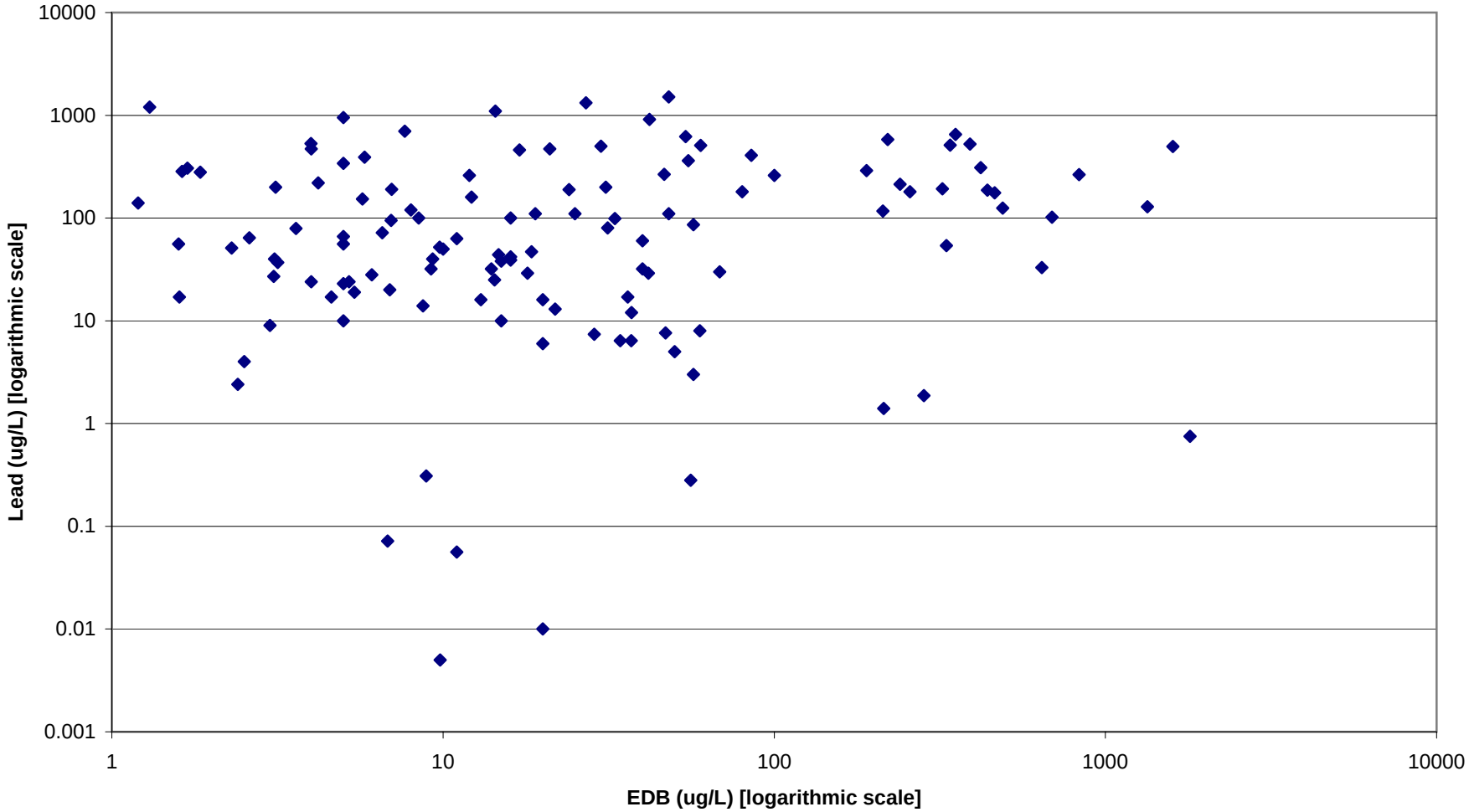
Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 11: Groundwater Monitoring Results for EDB (<1 ug/L) and Lead



Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix A-6, Figure 12: Groundwater Monitoring Results for EDB (>1 ug/L) and Lead



Each data point represents the maximum values for each contaminant during the most recent monitoring event (Fall 2003/Spring 2004).
Sources: (1) Clemson University. 2004. Data for UST sites in South Carolina. Spreadsheet emailed from Dr. Ron Falta, Clemson University, to Younus Burhan, Tetra Tech EM Inc. September 30, 2004.

Appendix B: Superfund Sites Treating EDC
(80 projects at 70 sites)

EPA Reg.	Site Name	City	State	CERCLIS ID	Site Type	ROD Date	Technology	Technology Type	Status
1	Pease Air Force Base	Portsmouth	NH	NH7570024847	Not reported	9/26/2000	Pump and Treat	Groundwater (ex situ)	Operational
1	Fletcher's Paint Works & Storage		NH	NHD001079649	Inorganic/Organic Pigments, Paint/Ink Formulation/Use, Road Oiling, Storage-Drums/Containers	9/30/1998	Thermal Desorption	Source control (ex situ)	Predesign
1	Kearsarge Metallurgical Corp.	Conway	NH	NHD062002001	Not reported	9/24/1993	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational
1	Sylvester Dump	Nashua	NH	NHD099363541	Not reported	4/8/1992	Pump and Treat (air stripping and metals precipitation)	Groundwater (ex situ)	Completed
1	Parker Sanitary Landfill	Lyndon	VT	VTD981062441	Not reported	1/1/1995	Pump and Treat	Groundwater (ex situ)	Predesign
2	Bog Creek Farm	Howell Township	NJ	NJD063157150	Not reported	6/30/1994	Pump and Treat	Groundwater (ex situ)	Operational
2	Lipari Landfill	Pitman	NJ	NJD980505416	Industrial Landfills, Municipal Landfills	9/30/1985	Dual-Phase Extraction	Source control (in situ)	Operational
2	Lipari Landfill	Pitman	NJ	NJD980505416	Industrial Landfills, Municipal Landfills	9/30/1985	Flushing	Source control (in situ)	Operational
2	Lone Pine Landfill	Freehold Township	NJ	NJD980505424	Not reported	9/22/1994	Pump and Treat	Groundwater (ex situ)	Operational
2	Woodland Routes 72 Dump	Woodland Township	NJ	NJD980505879	Dumping-Unauthorized	7/1/1999	Air Sparging	Groundwater (in situ)	Being Installed
2	Woodland Routes 72 Dump	Woodland Township	NJ	NJD980505879	Dumping-Unauthorized	7/1/1999	Soil Vapor Extraction	Source control (in situ)	Being Installed
2	Woodland Route 532 Dump	Woodland Township	NJ	NJD980505887	Dumping-Unauthorized	7/1/1999	Air Sparging	Groundwater (in situ)	Being Installed
2	Woodland Route 532 Dump	Woodland Township	NJ	NJD980505887	Dumping-Unauthorized	7/1/1999	Soil Vapor Extraction	Source control (in situ)	Being Installed
2	Reich Farm	Pleasant Plains	NJ	NJD980529713	Not reported	9/22/1998	Pump and Treat (air stripping followed by carbon adsorption)	Groundwater (ex situ)	Operational
2	Higgins Farm	Franklin Township	NJ	NJD981490261	Not reported	9/25/1998	Pump and Treat	Groundwater (ex situ)	Operational
2	Brookhaven National Laboratory (Usdoe)	Upton	NY	NY7890008975	Petroleum, Oil, Lubricant (POL) Line; Spill	3/25/1996	Air Sparging	Groundwater (in situ)	Operational
2	Mattiace Petrochemicals	Glencove	NY	NYD000512459	Not reported	6/30/2000	Pump and Treat	Groundwater (ex situ)	Operational
2	Endicott Village Well Field	Village of Endicott	NY	NYD980780746	Not reported	9/26/1997	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational

NR - Not reported
Source: Annual Status Report, 11th Edition.

Appendix B: Superfund Sites Treating EDC
(80 projects at 70 sites)

EPA Reg.	Site Name	City	State	CERCLIS ID	Site Type	ROD Date	Technology	Technology Type	Status
3	Delaware Sand & Gravel Landfill	New Castle	DE	DED000605972	Industrial Landfills, Storage-Drums/Containers	9/30/1993	Bioremediation	Source control (in situ)	Operational
3	Tybouts Corner Landfill	Bear	DE	DED000606079	Not reported	3/6/1986	Pump and Treat	Groundwater (ex situ)	Operational
3	Delaware City PVC	Delaware City	DE	DED980551667	Plastics Manufacturing	9/30/1986	Pump and Treat	Groundwater (ex situ)	Operational
3	Aberdeen Proving Ground	Aberdeen	MD	MD2210020036	Disposal Pit, Federal Facility, Open Burn/Open Detonation Area	9/27/2001	Phytoremediation	Source control (in situ) and groundwater (in situ)	Operational
3	Centre County Kepone Superfund Site	State College	PA	PAD000436261	Other Organic Chemical Manufacturing/Use, Pesticide Manufacturing/Use/Storage	4/21/1995	Pump and Treat	Groundwater (ex situ)	Operational
3	William Dick Lagoons	West Caln Township	PA	PAD980537773	Disposal Pit	3/31/1991	Pump and Treat	Groundwater (ex situ)	Design
3	Old City Of York Landfill	Springfield Township	PA	PAD980692420	Not reported	9/27/1996	Pump and Treat	Groundwater (ex situ)	Operational
3	Delta Quarries & Disp./Stotler Landfill	Antis/Logan Townships	PA	PAD981038052	Not reported	12/5/1996	Pump and Treat	Groundwater (ex situ)	Operational
3	H & H Burn Pit	Farrington	VA	VAD980539878	Open Burn/Open Detonation Area	2/28/1999	Dual-Phase Extraction	Source control (in situ)	Operational
4	T H Agriculture & Nutrition Company Site	Montgomery	AL	ALD007454085	Pesticide Manufacturing/Use/Storage	9/25/1998	Pump and Treat	Groundwater (ex situ)	Operational
4	Marine Corps Logistics Base	Albany	GA	GA7170023694	Federal Facility	9/19/2001	Bioremediation	Groundwater (in situ)	Design
4	B.F. Goodrich	Calvert City	KY	KYD006370167	Not reported	9/29/1997	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational
4	AIRCO	Calvert City	KY	KYD041981010	Not reported	9/29/1997	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational
4	Smith's Farm	Brooks	KY	KYD088430046	Not reported	9/17/1993	Bioremediation	Source control (ex situ)	Operational
4	Cherry Point Marine Corps Air Station	Cherry Point	NC	NC1170027261	Not reported	10/9/1996	Pump and Treat	Groundwater (ex situ)	Operational
4	Battery Tech (Duracell-Lexington)	Lexington	NC	NCD000648402	Battery Recycling/Disposal, Disposal Pit, Other Organic Chemical Manufacturing/Use	9/30/1999	Chemical Treatment	Source control (in situ)	Designed/Not Installed
4	FCX - Statesville	Statesville	NC	NCD095458527	Pesticide Manufacturing/Use/Storage	9/30/1996	Air Sparging	Groundwater (in situ)	Operational
4	Chemtronics, Inc.	Swannanoa	NC	NCD095459392	Not reported	3/25/1993	Pump and Treat	Groundwater (ex situ)	Operational

NR - Not reported
Source: Annual Status Report, 11th Edition.

Appendix B: Superfund Sites Treating EDC
(80 projects at 70 sites)

EPA Reg.	Site Name	City	State	CERCLIS ID	Site Type	ROD Date	Technology	Technology Type	Status
4	JFD Electronics/Channel Master	Oxford	NC	NCD122263825	Electroplating	9/10/1992	Pump and Treat	Groundwater (ex situ)	Operational
4	Jadco-Hughes Facility	Belmont	NC	NCD980729602	Not reported	12/19/1996	Pump and Treat	Groundwater (ex situ)	Operational
4	National Starch & Chemical Corp.		NC	NCD991278953	Not reported	10/7/1993	Pump and Treat	Groundwater (ex situ)	Operational
4	Para-Chem Southern, Inc.	Simpsonville	SC	SCD002601656	Not reported	9/1/2000	Pump and Treat	Groundwater (ex situ)	Operational
4	Shuron Inc	Barnwell	SC	SCD003357589	Surface Impoundment/Lagoon	9/9/1998	Air Sparging	Groundwater (in situ)	Design
4	Kalama Specialty Chemicals	Beaufort	SC	SCD094995503	Not reported	6/29/1999	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational
4	Lexington County Landfill Area	Lexington	SC	SCD980558043	Not reported	9/24/1994	Pump and Treat	Groundwater (ex situ)	Operational
4	SCRDI Dixiana	Cayce	SC	SCD980711394	Not reported	9/23/1992	Pump and Treat (air stripping followed by filtration)	Groundwater (ex situ)	Operational
4	Leonard Chemical Company	Catawba	SC	SCD991279324	Drum Storage/Disposal, Industrial Landfills, Solvent Recovery Facility	8/20/2001	Air Sparging	Groundwater (in situ)	Predesign
4	Leonard Chemical Company	Catawba	SC	SCD991279324	Drum Storage/Disposal, Industrial Landfills, Solvent Recovery Facility	8/20/2001	Bioremediation	Groundwater (in situ)	Predesign
4	Leonard Chemical Company	Catawba	SC	SCD991279324	Drum Storage/Disposal, Industrial Landfills, Solvent Recovery Facility	8/20/2001	Soil Vapor Extraction	Source control (in situ)	Predesign
5	Jennison Wright Corporation Inc.	Granite City	IL	ILD006282479	Railyard, Wood Preserving	9/29/1999	Thermally Enhanced Recovery	Source control (in situ)	Designed/Not Installed
5	Midco II	Gary	IN	IND980679559	Drum Storage/Disposal, Surface Impoundment/Lagoon; Waste Pile	4/13/1992	Pump and Treat	Groundwater (ex situ)	Operational
5	Bofors Nobel	Muskegon	MI	MID006030373	Not reported	7/16/1999	Pump and Treat	Groundwater (ex situ)	Operational
5	Kysor Industrial Corp.	Cadillac	MI	MID043681840	Not reported	9/23/1996	Pump and Treat	Groundwater (ex situ)	Operational
5	Ott/Story/Cordova Chemical Co.	Muskegon	MI	MID060174240	Not reported	9/29/1989	Pump and Treat	Groundwater (ex situ)	Operational
5	Muskegon Chemical Company	Whitehall	MI	MID072569510	Not reported	6/26/1997	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational
5	Duell-Gardner Landfill	Dalton Township	MI	MID980504716	Not reported	9/7/1993	Pump and Treat	Groundwater (ex situ)	Completed
5	Verona Well Field	Battle Creek	MI	MID980793806	Drum Storage/Disposal, Municipal Water Supply, Storage-Drums/Containers, Surface Disposal Area	6/28/1991	Soil Vapor Extraction	Source control (in situ)	Operational

NR - Not reported

Source: Annual Status Report, 11th Edition.

Appendix B: Superfund Sites Treating EDC
(80 projects at 70 sites)

EPA Reg.	Site Name	City	State	CERCLIS ID	Site Type	ROD Date	Technology	Technology Type	Status
5	US Aviex	Niles	MI	MID980794556	Not reported	9/21/1993	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational
5	East Bethel Township	East Bethel	MN	MND981088180	Not reported	6/30/2000	Pump and Treat	Groundwater (ex situ)	Completed
5	Mound Plant (USDOE)	Miamisburg	OH	OH6890008984	Federal Facility, Industrial Landfills, Open Burn/Open Detonation Area, Surface Disposal Area	6/12/1995	Pump and Treat	Groundwater (ex situ)	Operational
5	Skinner Landfill	West Chester	OH	OHD063963714	Disposal Pit, Industrial Landfills, Municipal Landfills	6/4/1993	Pump and Treat	Groundwater (ex situ)	Completed
5	Chem-Dyne Corp	Hamilton	OH	OHD074727793	Not reported	9/11/1992	Pump and Treat (air stripping)	Groundwater (ex situ)	Operational
5	Pristine, Inc.	Reading	OH	OHD076773712	Disposal Pit, Drum Storage/Disposal, Storage-Drums/Containers, Underground Storage Tank, Waste Treatment Plant	12/31/1987	Pump and Treat	Groundwater (ex situ)	Operational
5	Pristine, Inc.	Reading	OH	OHD076773712	Disposal Pit, Drum Storage/Disposal, Storage-Drums/Containers, Underground Storage Tank, Waste Treatment Plant	3/30/1990	Soil Vapor Extraction	Source control (in situ)	Operational
5	Muskego Sanitary Landfill	Muskego	WI	WID000713180	Not reported	9/26/1997	Pump and Treat	Groundwater (ex situ)	Operational
5	Eau Claire Municipal Well Field		WI	WID980820054	Munitions Manufacturing, Use, and Storage; Surface Impoundment/Lagoon	9/30/1997	Pump and Treat	Groundwater (ex situ)	Operational
6	Prewitt Abandoned Refinery	Prewitt	NM	NMD980622773	Not reported	8/22/1996	Pump and Treat	Groundwater (ex situ)	Operational
6	Hardage/Criner	Criner	OK	OKD000400093	Not reported	9/30/1997	Pump and Treat (air stripping followed by filtration)	Groundwater (ex situ)	Operational
6	Tex-Tin	Texas City	TX	TXD062113329	Metal Ore Mining and Smelting	9/28/2000	Vertical Engineered Barrier	Groundwater (in situ)	Designed/Not Installed
6	Brio Refining	Houston	TX	TXD980625453	Petroleum Refining and Reuse	3/31/1988	Incineration	Source control (ex situ)	Predesign
7	General Motors Corporation Former AC Rochester Facility Site	Sioux City	IA	IAD000686899	Not reported	5/22/2001	Bioremediation	Groundwater (in situ)	Predesign
7	General Motors Corporation Former AC Rochester Facility Site	Sioux City	IA	IAD000686899	Not reported	5/22/2001	Bioremediation	Source control (in situ)	Predesign

NR - Not reported
Source: Annual Status Report, 11th Edition.

Appendix B: Superfund Sites Treating EDC
(80 projects at 70 sites)

EPA Reg.	Site Name	City	State	CERCLIS ID	Site Type	ROD Date	Technology	Technology Type	Status
7	10th Street Site	Columbus	NE	NED981713837	Dry Cleaners	9/20/2001	Air Sparging	Groundwater (in situ)	Operational
7	10th Street Site	Columbus	NE	NED981713837	Dry Cleaners	9/20/2001	Soil Vapor Extraction	Source control (in situ)	Operational
9	Mather Air Force Base	Sacramento	CA	CA8570024143	Aboveground Storage Tank; Federal Facility; Gasoline Service Station/Petroleum Storage Facility; Petroluem, Oil, Lubricant (POL) Line; Underground Storage Tank	6/21/1996	Soil Vapor Extraction	Source control (in situ)	Operational
9	Lorentz Barrel And Drum	San Jose	CA	CAD029295706	Drum Storage/Disposal, Recycling (other than as primary operation)	8/26/1993	Soil Vapor Extraction	Source control (in situ)	Operational
9	Cooper Drum Company	South Gate	CA	CAD055753370	Drum Storage/Disposal, Storage-Drums/Containers	9/27/2002	Chemical Treatment	Groundwater (in situ)	Design
9	Cooper Drum Company	South Gate	CA	CAD055753370	Drum Storage/Disposal, Storage-Drums/Containers	9/27/2002	Dual-Phase Extraction	Source control (in situ) and groundwater (in situ)	Design
9	Fresno Municipal Sanitary Landfill	Fresno	CA	CAD980636914	Municipal Landfills	9/30/1996	Pump and Treat	Groundwater (ex situ)	Operational
9	Intel Corp. (Santa Clara Iii)	Santa Clara	CA	CAT000612184	Not reported	8/18/1992	Pump and Treat (carbon adsorption)	Groundwater (ex situ)	Operational
10	Fort Wainwright	Fairbanks	AK	AK6210022426	Aboveground Storage Tank; Drum Storage/Disposal; Dry Cleaners; Federal Facility; Petroluem, Oil, Lubricant (POL) Line; Recycling (other than as primary operation); Spill; Underground Storage Tank; Vehicle Maintenance	3/27/1997	Air Sparging	Groundwater (in situ)	Operational
10	Fort Wainwright	Fairbanks	AK	AK6210022426	Aboveground Storage Tank; Drum Storage/Disposal; Dry Cleaners; Federal Facility; Petroluem, Oil, Lubricant (POL) Line; Recycling (other than as primary operation); Spill; Underground Storage Tank; Vehicle Maintenance	3/31/1999	Air Sparging	Groundwater (in situ)	Operational

NR - Not reported
Source: Annual Status Report, 11th Edition.

Appendix C: Additional References (cited in *The Fifth Branch: Science Advisers as Policymakers,* by Sheila Jasanoff, 1990, Harvard University Press, Cambridge, MA, pp. 130-137)

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