

Analyses and Historical Reconstruction of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water Within the Service Areas of the Hadnot Point and Holcomb Boulevard Water Treatment Plants and Vicinities, U.S. Marine Corps Base Camp Lejeune, North Carolina

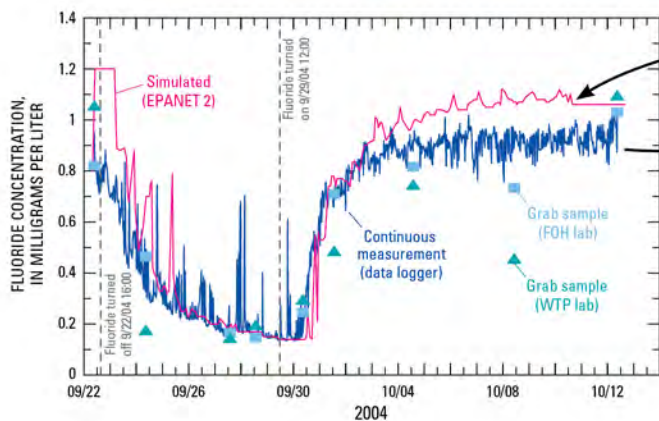
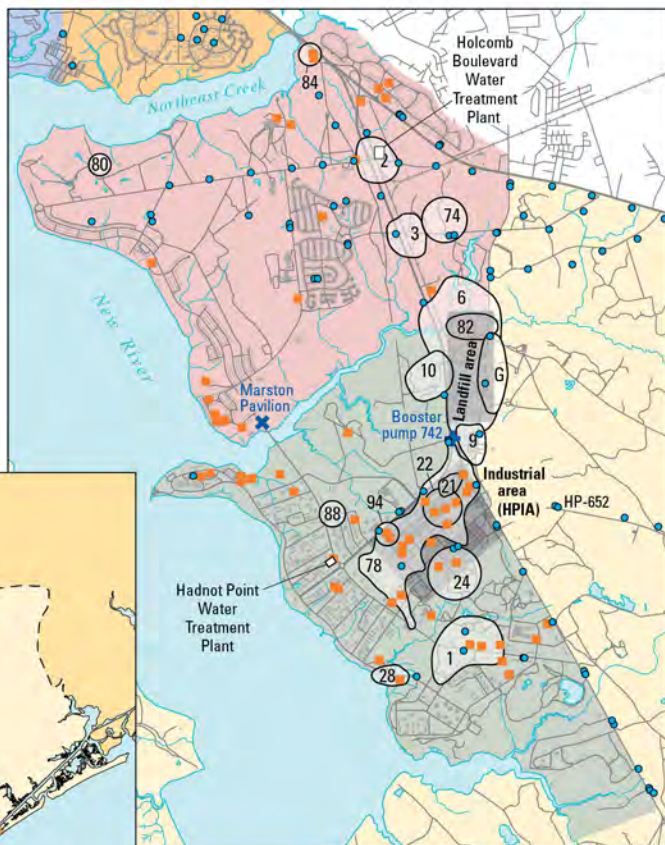
Chapter D: Occurrence of Selected Contaminants in Groundwater at Above-Ground and Underground Storage Tank Sites



Hadnot Point water treatment plant (Building 20)



HP-652 well house



Front cover: Historical reconstruction process using data, information sources, and water-modeling techniques to estimate historical contaminant concentrations.

Maps: U.S. Marine Corps Base Camp Lejeune, North Carolina; Holcomb Boulevard and Hadnot Point areas showing extent of sampling at installation restoration program sites (white numbered areas), above-ground and underground storage tank sites (orange squares), and water-supply wells (blue circles).

Photograph (upper): Hadnot Point water treatment plant (Building 20).

Photograph (lower): Well house building for water-supply well HP-652.

Graph: Measured fluoride data and simulation results for Paradise Point elevated storage tank (S-2323) for tracer test of the Holcomb Boulevard water-distribution system, September 22–October 12, 2004; simulation results obtained using EPANET 2 water-distribution system model assuming last-in first-out plug flow (LIFO) storage tank mixing model. [WTP lab, water treatment plant water-quality laboratory; FOH lab, Federal Occupational Health Laboratory]

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U.S. Marine Corps Base Camp Lejeune, North Carolina**

**Chapter D: Occurrence of Selected Contaminants in Groundwater
at Above-Ground and Underground Storage Tank Sites**

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Foreword

The Agency for Toxic Substances and Disease Registry (ATSDR), an agency of the U.S. Department of Health and Human Services, is conducting an epidemiological study to evaluate whether in utero and infant (up to 1 year of age) exposures to volatile organic compounds (such as trichloroethylene, tetrachloroethylene, and benzene) in drinking water at U.S. Marine Corps Base Camp Lejeune, North Carolina, were associated with specific birth defects and childhood cancers. The study includes births occurring during the period 1968–1985 to women who were pregnant while they resided in family housing at the base. During 2004, the study protocol received approval from the Centers for Disease Control and Prevention Institutional Review Board and the U.S. Office of Management and Budget.

Historical exposure data needed for the epidemiological case-control study are limited. To obtain estimates of historical exposure, ATSDR is using water-modeling techniques and the process of historical reconstruction to quantify concentrations of particular contaminants in finished water and to compute the level and duration of human exposure to contaminated drinking water.

Eight water-distribution systems have supplied or currently (2012) are supplying drinking water to family housing and other facilities at U.S. Marine Corps Base Camp Lejeune, North Carolina. The three distribution systems of interest to this study—Tarawa Terrace, Hadnot Point, and Holcomb Boulevard—have historically supplied drinking water to the majority of family housing units at the Base. During 2007–2009, ATSDR published historical reconstruction results for Tarawa Terrace and vicinity. Results for Hadnot Point, Holcomb Boulevard, and vicinity—based on information gathering, data interpretations, and water-modeling analyses—are now presented as another series of ATSDR reports supporting the current health study. These reports provide comprehensive descriptions of information, data analyses and interpretations, and modeling results used to reconstruct historical contaminant levels in drinking water within the service areas of the Hadnot Point and Holcomb Boulevard water treatment plants and vicinities. Each topical subject within the historical reconstruction process is assigned a chapter letter (e.g., Chapters A, B, C, and D) or presented as supplemental information as part of Chapter A.

- **Chapter A:** Summary and Findings
 - **Supplement 1:** Descriptions and Characterizations of Data Pertinent to Water-Supply Well Capacities, Histories, and Operations
 - **Supplement 2:** Development and Application of a Methodology to Characterize Present-Day and Historical Water-Supply Well Operations
 - **Supplement 3:** Descriptions and Characterizations of Water-Level Data and Groundwater Flow
 - **Supplement 4:** Simulation of Three-Dimensional Groundwater Flow
 - **Supplement 5:** Theory, Development, and Application of Linear Control Model Methodology to Reconstruct Historical Contaminant Concentrations at Selected Water-Supply Wells
 - **Supplement 6:** Source Characterization and Simulation of Fate and Transport of Selected Volatile Organic Compounds in the Vicinities of the Hadnot Point Industrial Area and Landfill

- **Supplement 7:** Source Characterization and Simulation of the Migration of Light Nonaqueous Phase Liquids (LNAPLs) in the Vicinity of the Hadnot Point Industrial Area
- **Supplement 8:** Field Tests, Data Analyses, and Simulation of the Distribution of Drinking Water with Emphasis on Intermittent Transfers of Drinking Water Between the Hadnot Point and Holcomb Boulevard Water-Distribution Systems
- **Chapter B:** Geohydrologic Framework of the Brewster Boulevard and Castle Hayne Aquifer Systems and the Tarawa Terrace Aquifer
- **Chapter C:** Occurrence of Selected Contaminants in Groundwater at Installation Restoration Program Sites
- **Chapter D:** Occurrence of Selected Contaminants in Groundwater at Above-Ground and Underground Storage Tank Sites

An electronic version of this Hadnot Point–Holcomb Boulevard report, *Chapter D: Occurrence of Selected Contaminants in Groundwater at Above-Ground and Underground Storage Tank Sites*, will be made available on the ATSDR Camp Lejeune Web site at <http://www.atsdr.cdc.gov/sites/lejeune/index.html>. Readers may request a three-digital-video-disc (DVD) set containing the publicly releasable U.S. Department of Navy Underground Storage Tank (UST) Management Web Portal files by e-mailing ATSDRRecordsCenter@cdc.gov. Readers interested solely in a summary of this report or any of the other reports can refer to *Chapter A: Summary and Findings*, which also will be available on the ATSDR Web site.

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Conversion Factors

Inch/Pound to SI

Multiply	By	To obtain
Length		
inch	2.54	centimeter (cm)
inch	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile	1.609	kilometer (km)
mile, nautical (nmi)	1.852	kilometer (km)
yard (yd)	0.9144	meter (m)
Area		
acre	4,047	square meter (m ²)
acre	0.4047	hectare (ha)
acre	0.004047	square kilometer (km ²)
square foot (ft ²)	929.0	square centimeter (cm ²)
square foot (ft ²)	0.09290	square meter (m ²)
square yard (yd ²)	0.8361	square meter (m ²)
square mile (mi ²)	2.590	square kilometer (km ²)
Volume		
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m ³)
million gallons (Mgal)	3,785	cubic meter (m ³)
cubic yard (yd ³)	0.7646	cubic meter (m ³)
Flow rate		
foot per day (ft/d)	0.3048	meter per day (m/d)
gallon per minute (gpm)	0.06309	liter per second (L/s)
gallon per minute (gal/yr)	0.003785	cubic meter per year (m ³ /yr)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m ³ /s)
inch per year (in/yr)	25.4	millimeter per year (mm/yr)
Mass		
pound per year (lb/yr)	0.45359	kilogram per year
ton, short (2,000 lb)	0.9072	megagram (Mg)
ton, long (2,240 lb)	1.016	megagram (Mg)
Hydraulic conductivity		
foot per day (ft/d)	0.3048	meter per day (m/d)
Hydraulic gradient		
foot per day (ft/d)	0.3048	meter per day (m/d)

Conversion Factors

SI to Inch/Pound

Multiply	By	To obtain
Density (for water at 4 degrees Celsius, at sea level)		
kilogram per cubic meter (kg/m ³)	0.06242	pound per cubic foot (lb/ft ³)
gram per cubic centimeter (g/cm ³)	62.4220	pound per cubic foot (lb/ft ³)

Concentration Conversion Factors and Datums

Unit	To convert to	Multiply by
microgram per liter (µg/L)	milligram per liter (mg/L)	0.001
microgram per liter (µg/L)	milligram per cubic meter (mg/m ³)	1
microgram per liter (µg/L)	microgram per cubic meter (µg/m ³)	1,000
parts per billion by volume (ppbv)	parts per million by volume (ppmv)	1,000

Vertical coordinate information is referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Altitude, as used in this report, refers to distance above the vertical datum.

Glossary and Abbreviations

Definitions of terms and abbreviations used throughout this report are listed below.

—A—

- AFVR** Aggressive fluid/vapor recovery
AKA Also known as
AS/SVE Air sparge/soil vapor extraction
AST Above-ground storage tank
ATSDR Agency for Toxic Substances and Disease Registry

—B—

- bgs** Below ground surface
biodegradation Transformation of substances into new compounds through biochemical reactions or the actions of microorganisms, such as bacteria. Typically expressed in terms of a rate constant or half-life (USEPA 2004). The new compounds are referred to as degradation by-products (for example, TCE, *trans*-1,2-DCE, and vinyl chloride (VC) are degradation by-products of tetrachloroethylene (PCE))
Bldg Building
bls Below land surface
BTEX Benzene, toluene, ethylbenzene, and xylenes; a group of VOCs found in petroleum hydrocarbons, such as gasoline, and other common environmental contaminants

—C—

- calibration** See model calibration
CERCLA The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, also known as Superfund
CLW Camp Lejeune water document

—D—

- D** Sample dilution required
DCE DCE dichloroethylene
 1,1-DCE 1,1-dichloroethylene or 1,1-dichloroethene
 1,2-DCE 1,2-dichloroethylene or 1,2-dichloroethene
cis-1,2-DCE *cis*-1,2-dichloroethylene or *cis*-1,2-dichloroethene
trans-1,2-DCE *trans*-1,2-dichloroethylene or *trans*-1,2-dichloroethene

- degradation** See biodegradation
degradation by-product See biodegradation
DEM Digital elevation model

density The mass per unit volume of material, expressed in terms of kilograms per cubic meter or grams per cubic centimeter

DNAPL Dense nonaqueous phase liquids; a class of environmental contaminants that have a specific gravity greater than water (Huling and Weaver 1991). Immiscible (nonmixing) DNAPLs exist in the subsurface as a separate fluid phase in the presence of air and water. DNAPLs can vaporize into air and slowly dissolve into flowing groundwater. Examples of DNAPLs include chlorinated solvents, creosote, coal tar, and PCBs (Kueper et al. 2003)

- DP** Direct push
DVD Digital video disc

—E—

- E** Constituent concentration exceeds calibration range of GC/MS instrument
epidemiological study A study to determine whether a relation exists between the occurrence and frequency of a disease and a specific factor such as exposure to a toxic compound found in the environment

—F—

- fate and transport** Also known as mass transport; a process that refers to how contaminants move through, and are transformed in, the environment
finished water Groundwater that has undergone treatment at a WTP and was subsequently delivered to a family housing unit or other facility.

- FOUO** For official use only
ft Foot or feet

—G—

- gal** Gallon or gallons
GC/MS Gas chromatograph/Mass spectrometer
GP Geoprobe sample point
GPS Global positioning system

—H—

- historical reconstruction** A diagnostic analysis used to examine historical characteristics of groundwater flow, contaminant fate and transport, water-distribution systems, and exposure
HP Hydropunch
HPFF Hadnot Point Fuel Farm
HPIA Hadnot Point Industrial Area
HSWA Hazardous and Solid Waste Amendments of 1984

—I—

- IR** Installation Restoration
IRP Installation Restoration Program

	—J—		—R—
J	Estimated concentration	R	Analytical result is unreliable
	—K—	RCRA	Resource Conservation and Recovery Act of 1976
kg	Kilogram		—S—
	—L—	sequential biodegradation	Degradation of a volatile organic compound as a result of a biological process that occurs in a progression, for example, the biodegradation of PCE → TCE → <i>trans</i> -1,2-DCE → VC
LNAPL	Light nonaqueous phase liquids	SR	Highway or state route
	—M—		—T—
µg/kg	Microgram per kilogram; 1 part per billion (ppb); a unit of concentration used in soil sampling	TCE	1,1,2-trichloroethene, or 1,1,2-trichloroethylene, or trichloroethylene
µg/L	Microgram per liter; 1 part per billion (ppb), a unit of concentration used in groundwater sampling	TPH	Total petroleum hydrocarbons
mg/L	Milligram per liter; 1 part per million (ppm), a unit of concentration		—U—
mL	Milliliter; 1/1000th of a liter	USEPA	U.S. Environmental Protection Agency
model calibration	The process of adjusting model input parameter values until reasonable agreement is achieved between model-predicted outputs or behavior and field observations	USMCB	U.S. Marine Corps Base
MRFF	Michael Road Fuel Farm	UST	Underground storage tank
MW	Monitor well		—V—
	—N—	VC	Vinyl chloride or chloroethene
N/A	Not available	VOC	Volatile organic compound; one of a group of carbon-containing compounds that evaporate readily at room temperature and can readily be inhaled. Examples of VOCs include PCE, TCE, VC, and benzene. These contaminants typically are generated from metal degreasing, printed circuit board cleaning, dry cleaning, gasoline, and wood preserving processes. VOCs are environmental contaminants, and some are classified as known human carcinogens (e.g., TCE, VC, and benzene).
NACIP	Navy Assessment and Control of Installation Pollutants		—W—
NAD 83	North American Datum of 1983	water-distribution system	A water-conveyance network consisting of hydraulic facilities such as wells, reservoirs, storage tanks, high-service and booster pumps, and a network of pipelines for delivering drinking water
NAVD 88	North American Vertical Datum of 1988	water table	Also known as the phreatic surface; the surface where the water pressure is equal to atmospheric pressure
ND	Constituent not detected	WTP	Water treatment plant
NGVD 29	National Geodetic Vertical Datum of 1929		—Symbols—
NPL	National Priorities List; the USEPA's official list of uncontrolled hazardous waste sites which are to be cleaned up under the Superfund legislation	<	Constituent concentration is less than detection limit. Number following the "<" is the detection limit
	—P—		
PCE	Tetrachloroethene, tetrachloroethylene, 1,1,2,2-tetrachloroethylene, or perchloroethylene; also known as PERC® or PERK®		
PHA	Public health assessment; an evaluation conducted by ATSDR of data and information on the release of hazardous substances into the environment in order to assess any past, present, or future impact on public health		
PRS	Product recovery system		

Note: The maximum contaminant level (MCL) is a legal threshold limit set by the USEPA on the amount of a hazardous substance that is allowed in drinking water under the Safe Drinking Water Act; usually expressed as a concentration in milligrams or micrograms per liter. Effective dates for MCLs are as follows: trichloroethylene (TCE) and vinyl chloride (VC), January 9, 1989; tetrachloroethylene (PCE) and *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), July 30, 1992 (40 CFR, Section 141.60, Effective Dates, July 1, 2002, ed.)

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Chapter D: Occurrence of Selected Contaminants in Groundwater at Above-Ground and Underground Storage Tank Sites

By Robert E. Faye,¹ René J. Suárez-Soto,² and Morris L. Maslia²

Abstract

Eight water-distribution systems have supplied or currently (2012) are supplying drinking water to family housing and other facilities at U.S. Marine Corps Base (USMCB) Camp Lejeune, North Carolina. The three distribution systems of interest to this study—Tarawa Terrace, Hadnot Point, and Holcomb Boulevard—have historically supplied drinking water to the majority of family housing units at the Base. Two of the three water-distribution systems were contaminated with volatile organic compounds (VOCs). Groundwater within the Tarawa Terrace water treatment plant (WTP) service area was contaminated mostly with tetrachloroethylene (PCE). Groundwater within the Hadnot Point WTP service area was contaminated mostly with trichloroethylene (TCE), as well as PCE and refined petroleum products, such as benzene, toluene, ethylbenzene, and xylenes (BTEX). Most of the groundwater within the Holcomb Boulevard WTP service area remained uncontaminated. Discovery of contaminated water supplies at USMCB Camp Lejeune initiated a series of assessments of groundwater contamination within the Hadnot Point WTP and Holcomb Boulevard WTP service areas. Assessments began in 1984 under the Navy Assessment and Control of Installation Pollutants (NACIP) Program. In 1986, the NACIP Program was converted to the Installation Restoration Program (IRP), which was conducted under the auspices of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Additional assessments of groundwater contamination by refined petroleum products from

leaking above-ground and underground storage tanks were conducted under the auspices of the Resource Conservation and Recovery Act (RCRA). An earlier report of this series, Chapter C, describes soil and groundwater contamination at IRP (CERCLA) sites by PCE, TCE, and their degradation products, as well as BTEX components.

This report, Chapter D, primarily summarizes the results of investigations at 64 designated RCRA study areas and emphasizes the occurrence and distribution of BTEX components, such as benzene, within groundwater of the areas served by the Hadnot Point and Holcomb Boulevard WTPs. The amounts of BTEX mass removed from the subsurface during remediation at selected locations within the service areas are also summarized. Results of analyses of samples collected in monitor wells at several CERCLA investigation study areas co-located with RCRA areas are also included herein. Concentrations of BTEX components in groundwater are relatively high at several locations, including in the vicinity of Buildings 645, 820, and 1613, and at the former Hadnot Point Fuel Farm and nearby Building 1115. Maximum observed benzene concentrations in monitor wells ranged from 3,650 micrograms per liter ($\mu\text{g/L}$) near Building 645 to 43,000 $\mu\text{g/L}$ at Building 1115. Corresponding concentrations in the vicinity of Buildings 820 and 1613 were 36,000 $\mu\text{g/L}$ and 17,300 $\mu\text{g/L}$, respectively. The maximum observed benzene concentration at the former Hadnot Point Fuel Farm was 29,000 $\mu\text{g/L}$. Plumes of BTEX components were also observed at each of these locations. Occurrences of BTEX components greater than detection limits also occurred at various times in supply wells proximate to Buildings 645, 1115, and 1613. Benzene concentrations ranged from 1.6 $\mu\text{g/L}$ in well HP-608 to 720 $\mu\text{g/L}$ in well HP-602. Concentrations of chlorinated alkenes such as PCE and TCE are also described where plumes

¹ Consultant to Eastern Research Group, Inc., Lexington, Massachusetts.

² Agency for Toxic Substances and Disease Registry, Atlanta, Georgia.

of BTEX and chlorinated alkenes are mixed at several locations. In general, concentrations of chlorinated alkenes are less than 10 µg/L, and most are less than detection limits.

This report, Chapter D, is one of four chapters planned to describe and summarize groundwater data and water-modeling results necessary to estimate spatial and temporal distributions of contaminant-specific concentrations in drinking-water supplies within the Hadnot Point and Holcomb Boulevard WTP service areas. These contaminant-specific concentrations are necessary to complete ATSDR's current health study of birth defects and specific childhood cancers and to evaluate possible associations between adverse health effects and contaminated drinking water at USMCB Camp Lejeune. The majority of the data tabulated and described in this report were extracted from hundreds of USMCB Camp Lejeune RCRA investigation files and reports.

Background

U.S. Marine Corps Base (USMCB) Camp Lejeune is located in the Coastal Plain of North Carolina, in Onslow County, south of the City of Jacksonville and about 70 miles northeast of the City of Wilmington, North Carolina. The focus of this investigation at the Base is contamination of groundwater by refined petroleum products in areas served by the water-distribution networks supplied by the Hadnot Point and Holcomb Boulevard water-treatment plants (WTPs) (Faye et al. 2010, Plate 1), herein called the study area or the Hadnot Point–Holcomb Boulevard study area (Figure D1). In general, the study area is bordered on the north by Northeast Creek and North Carolina Highway 24 (SR 24), to the west by New River, to the south by Frenchs Creek, and generally to the east by the drainage divides of the upstream tributaries of Wallace Creek and Frenchs Creek (Faye et al. 2010, Plate 1). The total study area is approximately 50 square miles (mi²).

The Agency for Toxic Substances and Disease Registry (ATSDR) is currently (2012) conducting a health study of birth defects and specific childhood cancers at USMCB Camp Lejeune. Such studies require estimates or direct knowledge of contaminant concentrations in finished water³ delivered to family housing within the study area. When direct knowledge of contaminant concentrations in finished water is unavailable, historical reconstruction is used to provide estimates of contaminant concentrations. Characteristically, historical reconstruction includes the application of simulation tools, such as models, to re-create or represent past conditions (Rodenbeck and Maslia 1998; McLaren/Hart-ChemRisk 2000; Maslia et al. 2001; Costas et al. 2002; Reif et al. 2003; Kopecky et al. 2004; Sahmel et al. 2010). At USMCB Camp

Lejeune, historical reconstruction methods include linking materials mass balance (mixing) and water-distribution system models to groundwater-flow and fate and transport models (Maslia et al. 2009). Groundwater fate and transport models are based to a large degree on groundwater-flow velocities or specific discharges simulated by a groundwater-flow model (Faye and Valenzuela 2007). Calibration of fate and transport models also requires knowledge of the temporal, spatial (horizontal), and vertical occurrences of contaminant concentrations of interest within water-bearing units open to water-supply and other observation wells (Faye and Green 2007; Faye 2008). Specific contaminants of concern to the current health study at USMCB Camp Lejeune are tetrachloroethylene (PCE), trichloroethylene (TCE), and related degradation products dichloroethylene (DCE) and vinyl chloride, as well as benzene, toluene, ethylbenzene, and xylenes (herein called BTEX components).

The BTEX components of primary interest to this study are generally classified as gasoline or diesel fuels and are grouped with compounds commonly called light nonaqueous phase liquids (LNAPLs). These compounds are characterized by densities less than the density of water,⁴ and their downward vertical migration in the subsurface is generally limited to the vicinity of the water table. The volatile organic compounds (VOCs) of interest to this study, PCE, TCE, and their degradation products, are classified as chlorinated alkenes and are commonly grouped with compounds called dense nonaqueous phase liquids (DNAPLs). As such, the densities of DNAPLs are greater than the density of water, and DNAPLs are characterized by an enhanced potential for downward vertical migration when occurring in the subsurface.

Eight WTPs have supplied or currently (2012) are supplying drinking water to family housing and other facilities at USMCB Camp Lejeune, North Carolina. The three water-distribution systems of interest to this study—Tarawa Terrace, Hadnot Point, and Holcomb Boulevard—historically supplied drinking water to the majority of family housing at the Base. Two of the three water-distribution systems were contaminated with VOCs. Groundwater supplied to the Tarawa Terrace WTP and subsequently to the Tarawa Terrace water-distribution system was contaminated with PCE and related degradation products, such as TCE and vinyl chloride. Similarly, groundwater supplied to the Hadnot Point WTP was contaminated with TCE, as well as PCE and refined petroleum products such as benzene, toluene, ethylbenzene, and xylenes. Groundwater supplied to the Holcomb Boulevard WTP was mostly uncontaminated (Faye et al. 2010, Tables C11–C12). The Hadnot Point WTP was constructed probably during 1941 and 1942, along with much of the original infrastructure of the Base. Construction of the Holcomb Boulevard WTP was completed during the summer of 1972 (Faye et al. 2010).

³ For this study, finished water is defined as groundwater that has undergone treatment at a WTP and was subsequently delivered to a family housing unit or other facility.

⁴ The density of water is 0.998 gram per cubic centimeter (998 kilograms per cubic meter) at 20 degrees Celsius (Nazaroff and Alvarez-Cohen 2001).

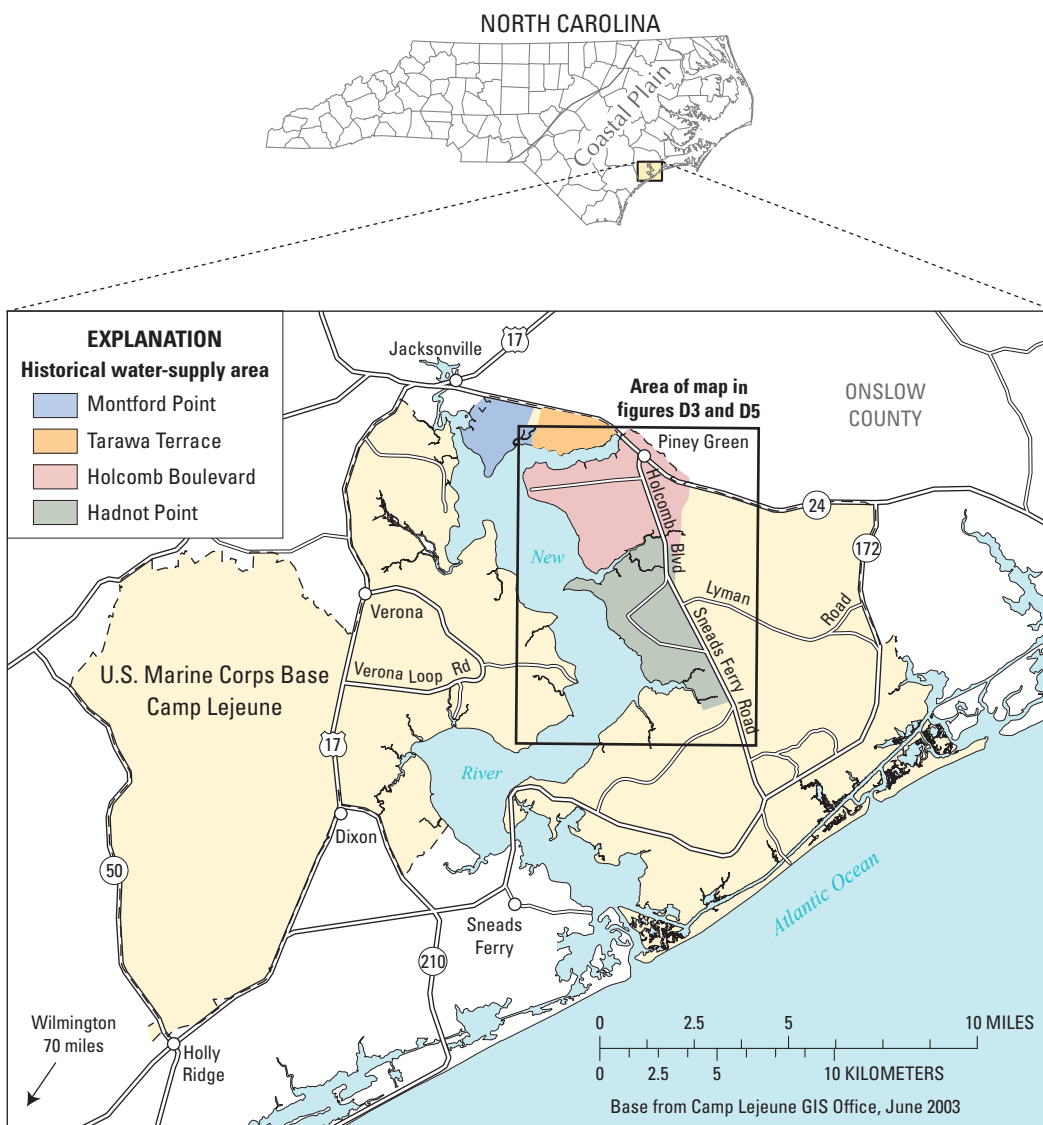


Figure D1. Study area and cultural and geographic features at U.S. Marine Corps Base Camp Lejeune, North Carolina.

Family housing areas within the study area are listed in Table D1, along with corresponding numbers of units, resident populations, and year(s) of construction. Locations of family housing areas are shown on Plate 1 published in Faye et al. (2010). Prior to the summer of 1972, all finished water distributed to family housing units and all other facilities within the study area was supplied by the Hadnot Point WTP. Subsequent to the summer of 1972, finished water distributed to Berkeley Manor, Midway Park, Paradise Point, and Watkins Village family housing areas (Table D1; Faye et al. 2010, Plate 1) was supplied by the Holcomb Boulevard WTP (Faye et al. 2010). The operational chronology of wells supplying water to the Hadnot Point and Holcomb Boulevard WTPs is shown graphically in Figure D2. Starting and ending dates of operation and receiving WTPs are also shown. Nearly 100 water-supply wells have historically supplied the WTPs with groundwater. Detailed discussions of the capacity, years of construction and expansion, and related service areas, as well as average annual delivery rates and populations served, with respect to the Hadnot Point and Holcomb Boulevard WTPs, are included in Chapter C of the Hadnot Point–Holcomb Boulevard report series (Faye et al. 2010).

Between October 1980 and August 1982, routine gas chromatograph/mass spectrometer analyses for trihalomethanes in water samples collected from the Hadnot Point WTP were interrupted by interference from constituents in the water samples thought to be halogenated hydrocarbons (Grainger

Laboratories, written communication, August 10, 1982; Camp Lejeune water documents CLW #0436, #0438, #0441, #0443, #0592, #5177, #5179, #5180; Elizabeth A. Betz, written communication, August 19, 1982, Camp Lejeune water documents CLW #606–#607). Subsequent analyses confirmed the presence of PCE and TCE in the water samples ranging, respectively, from not detected to 15 micrograms per liter ($\mu\text{g/L}$) and from 19 $\mu\text{g/L}$ to 1,400 $\mu\text{g/L}$. Discovery of contaminated water supplies at USMCB Camp Lejeune initiated a series of assessments and characterizations of groundwater contamination within the study area beginning in 1984 and continuing to the present day (2012). By 1991, all groundwater contaminant investigations and remediation activities at USMCB Camp Lejeune were placed under the oversight of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) (Environmental and Safety Designs, Inc. 1996; Baker Environmental, Inc. 1999). Investigations of groundwater contamination under the auspices of CERCLA were and are conducted at 18 sites within the study area (Faye et al. 2010, Plate 1) (Figure D3) as a part of the Installation Restoration Program (IRP)⁵.

⁵ The location of an additional site, IRP Site 96, located southeast of the Hadnot Point Industrial Area in the vicinity of RCRA site Building 1854 (Faye et al. 2010, Plate 1), is not shown on Plate 1 (Faye et al. 2010) or Figure D3.

Table D1. Chronology of Hadnot Point and Holcomb Boulevard family and bachelor housing construction and contemporary populations, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[NA, not available]

Housing area	Year built	Number of units	Type of units	Resident population ¹
Bachelor Housing	NA	NA	NA	NA/13,427
Berkeley Manor	1962/1963	677	Single	2,721/2,486
Hospital Point	1947	24	Single (?)	NA/86
Midway Park	1942/1943	699	Single and duplex	1,726/1,809
Paradise Point	1942	5	Single	
	1947	100	Single	
	1948	67	Single	
	1962	123	Single	
	1999	(total) 510	Single	1,854/1,665
Watkins Village	1978/1979	250	Townhouses	1,342/1,347

¹The first number is the resident population indicated by hand-written notes on the maps listed below under Data sources. The second number is the resident population in 1999 reported by ECG, Inc. (1999, Appendix 2)

Data sources:

ECG, Inc. 1999

U.S. Marine Corps Base Camp Lejeune

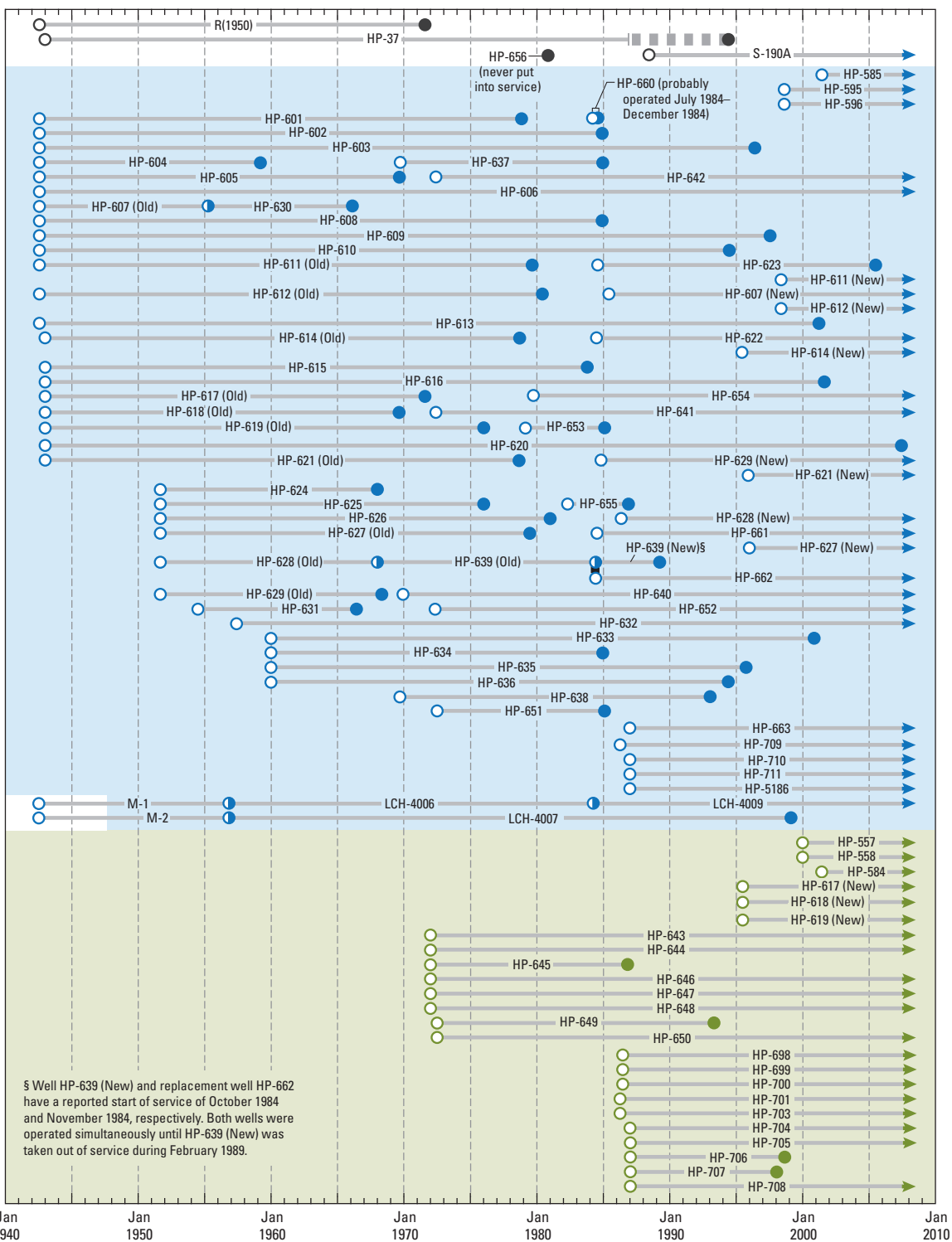
Map of Berkeley Manor area, June 30, 1979

Map of Midway Park housing area and Naval Hospital, July 31, 1984

Map of Officer Quarters, Paradise Point area, July 31, 1984

Map of Watkins Village, June 30, 1979

Scott R. Williams, U.S. Marine Corps Base Camp Lejeune, written communication, September 9, 2008

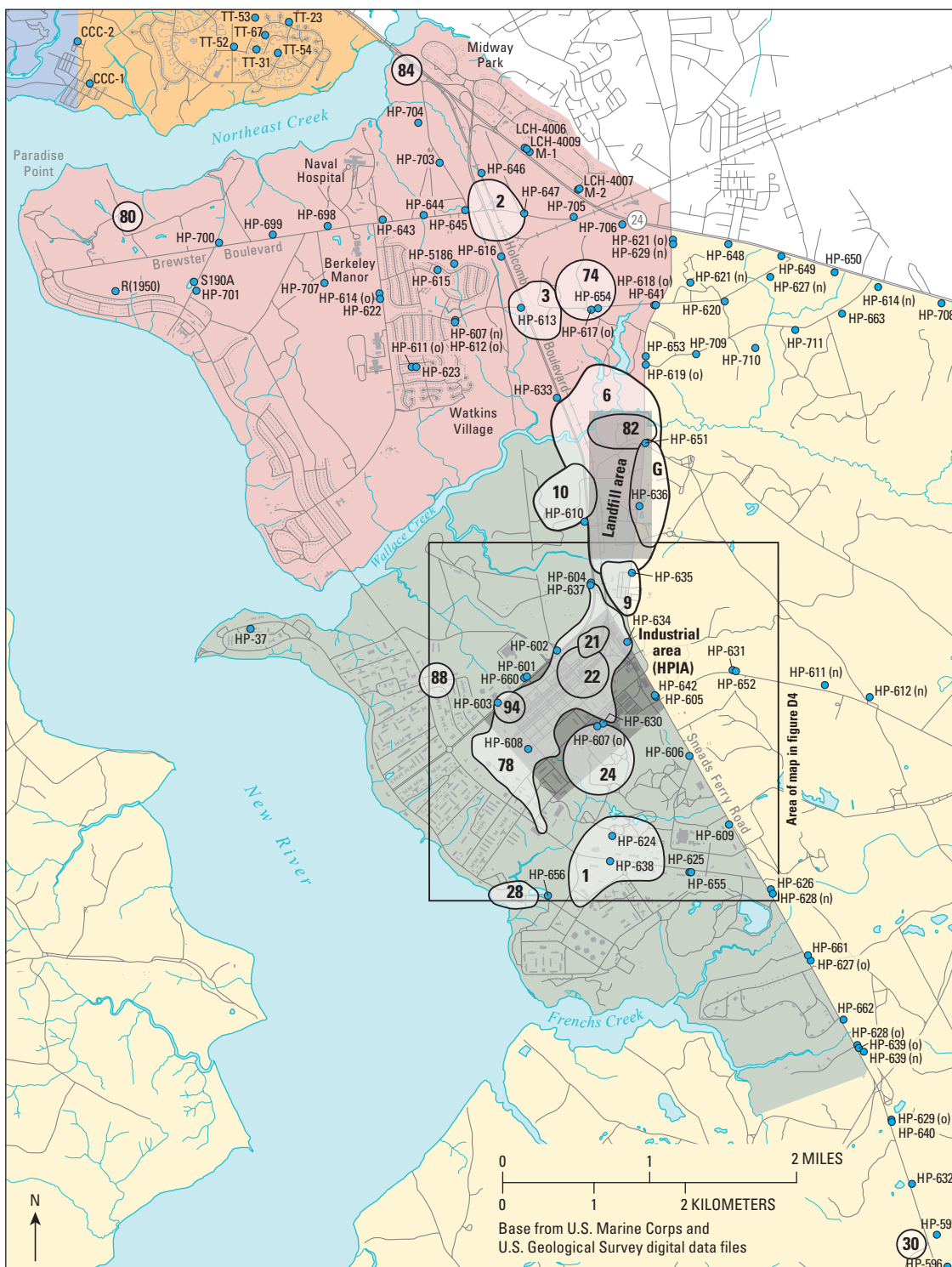


§ Well HP-639 (New) and replacement well HP-662 have a reported start of service of October 1984 and November 1984, respectively. Both wells were operated simultaneously until HP-639 (New) was taken out of service during February 1989.

EXPLANATION

- Water-supply well contributed/contributes raw water to**
 - ◻ Neither Hadnot Point WTP or Holcomb Boulevard WTP
 - ◻ Hadnot Point WTP
 - ◻ Holcomb Boulevard WTP
- Water-supply well**
 - Hadnot Point
 - Holcomb Boulevard
 - Not connected to a water-distribution system
- Well name** (M-1, LCH-4006)
- Replacement well name** (LCH-4007)
- Start of service** (circle)
- End of service and start of service for replacement well** (vertical line)
- End of service date uncertain** (dashed line)
- In service as of June 2008** (arrowhead)

Figure D2. Operational chronology of Hadnot Point and Holcomb Boulevard water-supply wells, U.S. Marine Corps Base Camp Lejeune, North Carolina.



EXPLANATION

- Historical water-supply areas of Camp Lejeune Military Reservation**
- Montford Point
- Tarawa Terrace
- Holcomb Boulevard
- Hadnot Point
- Other areas of Camp Lejeune Military Reservation
- 28** Approximate extent of sampling during contaminant delineation and Installation Restoration Program site number
- HP-608 Water-supply well and identifier

Figure D3. Installation Restoration (CERCLA) site locations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

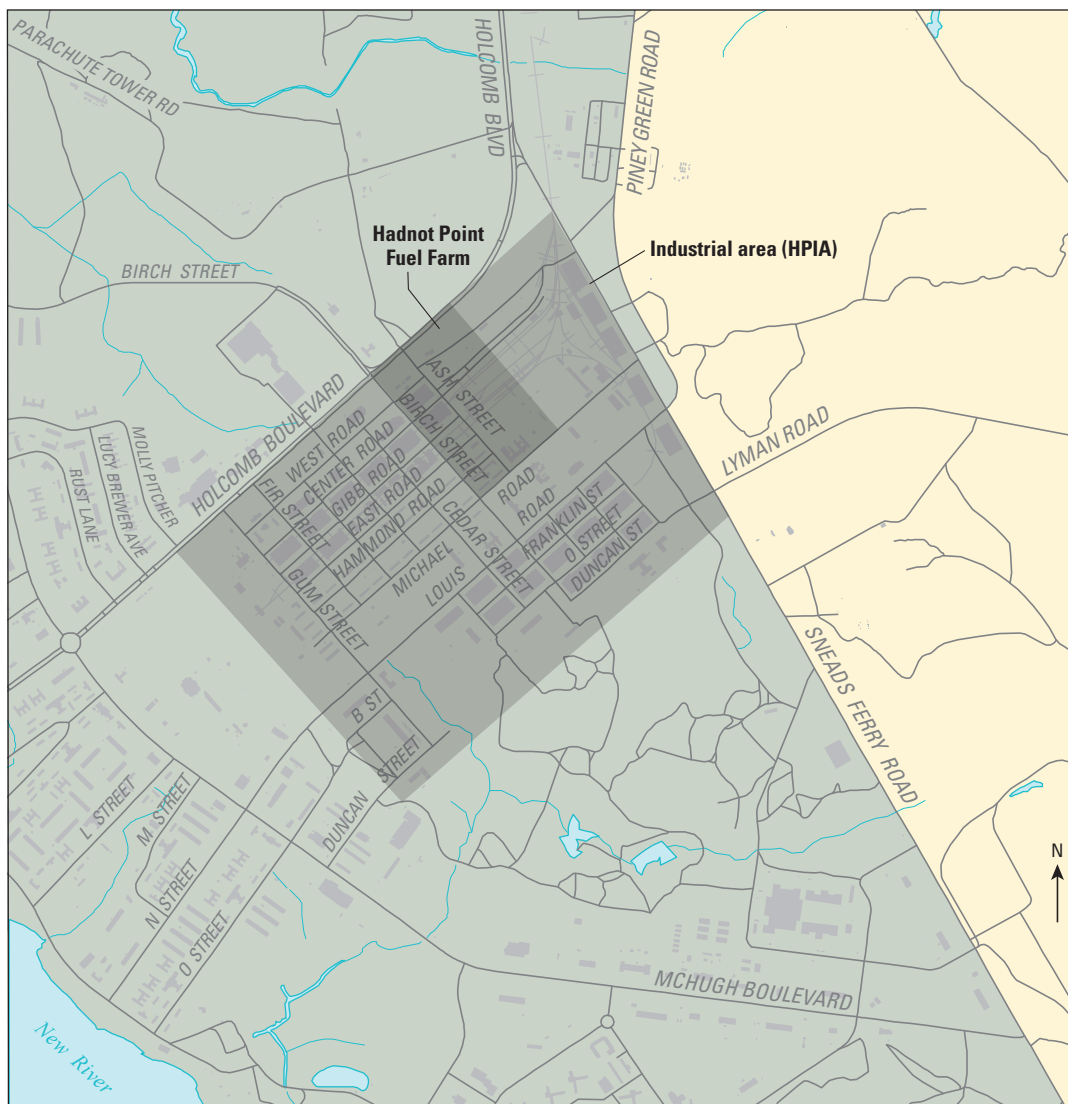
In general, IRP investigations address the occurrence of all groundwater contaminants of concern to the current ATSDR health study; that is PCE, TCE, DCE, vinyl chloride, and BTEX components. Investigations of interest to this study conducted under the auspices of RCRA at USMCB Camp Lejeune are those dedicated to the discovery and remediation of soil and groundwater contamination caused by refined petroleum products that leaked from above-ground and underground storage tanks (ASTs and USTs) (Baker Environmental, Inc. 1993a). To date (2012), RCRA investigations of leaking ASTs and USTs have occurred at approximately 70 locations throughout the study area and were largely concentrated (1) at and in the vicinity of the Hadnot Point Industrial Area (HPIA) (Figure D4), (2) immediately west of Watkins Village in the vicinity of Building 820, (3) in and adjacent to the Midway Park area, (4) near IRP Site 1 southeast of the HPIA, and (5) immediately west of IRP Site 2, along Brewster Boulevard and in the vicinity of Building 645 (Faye et al. 2010, Plate 1) (Figure D5; Tables D2, D3). The emphasis of information and data presented herein is groundwater contamination by BTEX components at sites of RCRA investigations of leaking ASTs and USTs.

Because of VOC contaminants discovered within the Hadnot Point WTP distribution network during the latter part of 1984 and early 1985, operations at all recognized contaminated supply wells within the study area were terminated by February 1985. Tables listing concentrations of VOC contaminants, including BTEX components, in water samples collected at the Hadnot Point and Holcomb Boulevard WTPs, at respective water-supply wells, and at IRP locations within the study area (except Site 96) are included in Faye et al. (2010,

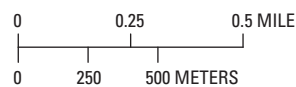
Tables C7–C12). Construction data for most supply wells in the study area along with completion date, location coordinates, finished depth, and screened intervals are also included in Faye et al. (2010, Table C4).

USMCB Camp Lejeune was placed on the U.S. Environmental Protection Agency (USEPA) National Priorities List (NPL) on November 4, 1989 (Environmental and Safety Designs, Inc. 1996; Baker Environmental, Inc. 1999). In accordance with Congressional mandate, once a site is placed on the NPL, ATSDR is responsible for conducting and publishing a Public Health Assessment (PHA). A PHA is an evaluation conducted by ATSDR of data and information regarding the release of hazardous substances into the environment in order to assess any past, present, or future effects on public health. During 1997, ATSDR completed and published a PHA for USMCB Camp Lejeune⁶ (ATSDR 1997).

⁶ On May 7, 2009, ATSDR publicly announced on its Web site the removal of the 1997 Camp Lejeune PHA from its Web site. In the 13 years since the 1997 PHA was published, additional information has emerged related to exposures to VOCs in drinking water at Camp Lejeune. Due in part to the ongoing historical reconstruction analyses, ATSDR has learned that communities serviced by the Holcomb Boulevard water-distribution system were exposed to contaminated water for a longer period than was used in the 1997 evaluation contained in the PHA. Also, at the Camp Lejeune site, benzene was present in some water-supply wells that were shut down sometime prior to 1985, and this information was not included in the 1997 PHA. Refer to the ATSDR Web site for additional details (<http://www.atsdr.cdc.gov/sites/lejeune/index.html>).



Base from U.S. Marine Corps and U.S. Geological Survey digital data files



EXPLANATION

- Hadnot Point historical water-supply area of Camp Lejeune Military Reservation
- Other areas of Camp Lejeune Military Reservation

Figure D4. Hadnot Point Industrial area boundaries and related street names (modified from Shaw Environmental, Inc. 2009d).

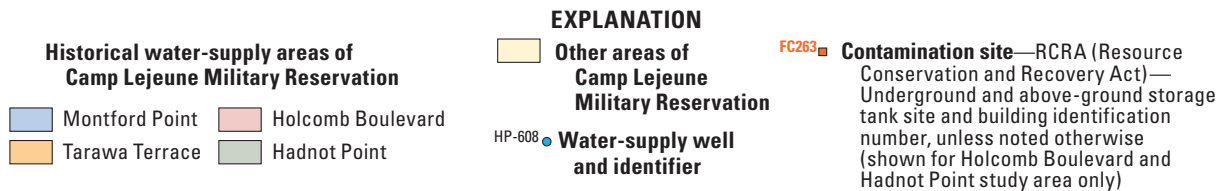
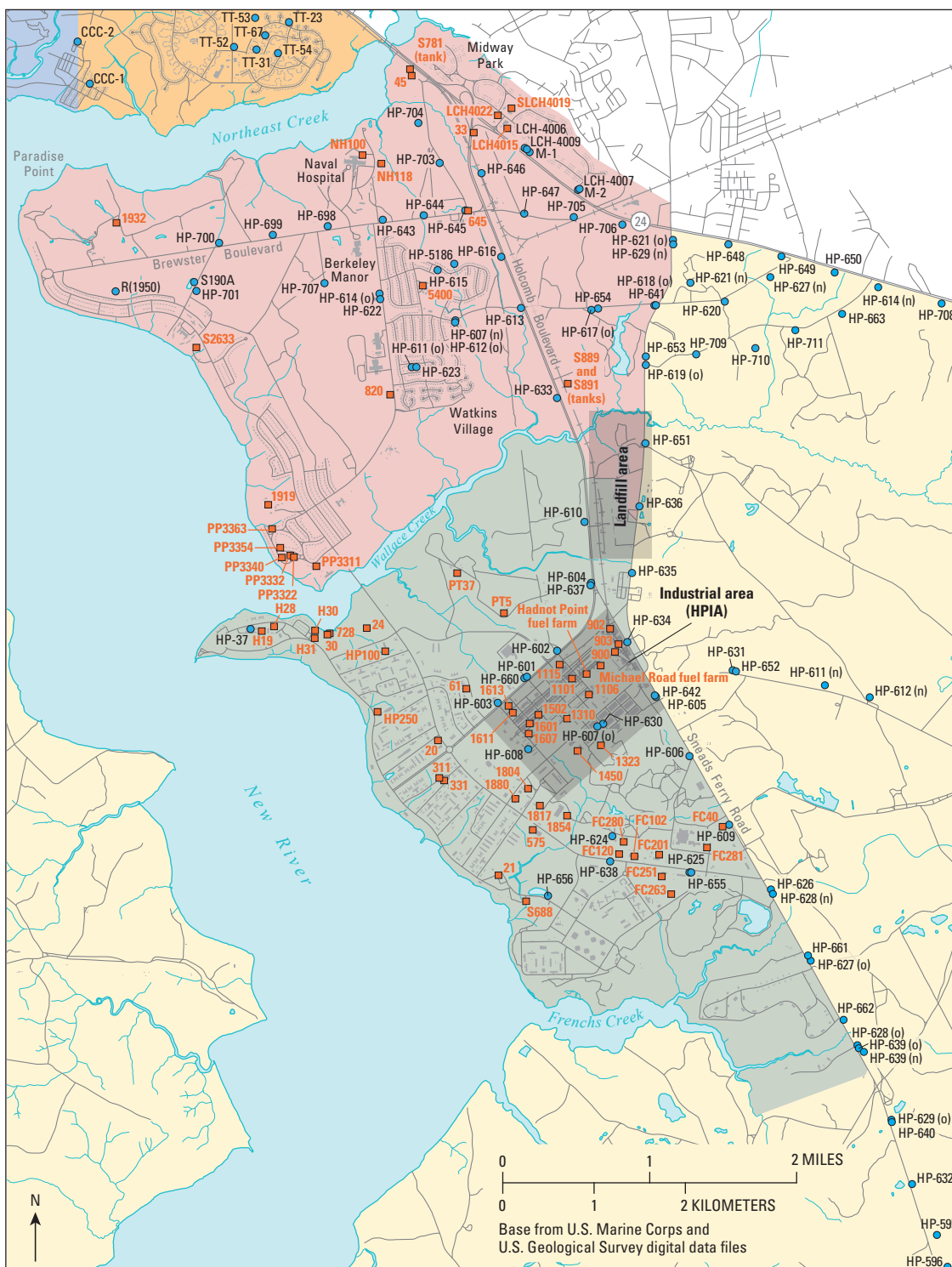


Figure D5. Underground and above-ground storage tank (RCRA) site locations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

Table D2. Sites of RCRA investigations and tank removal at underground and above-ground storage tank locations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[RCRA, Resource Conservation and Recovery Act; UST, underground storage tank; AST, above-ground storage tank; >, greater than; <, less than; N/A, data not available; FC, Frenchs Creek; H, Hospital; HP, Hospital Point; HPPF, Hadnot Point Fuel Farm; LCH, Low Cost Housing; NH, New Hospital; MRFF, Michael Road Fuel Farm]

Site name ¹	Tank name	Tank capacity, in gallons	Tank contents
Building 20	UST 20-1	550	Diesel fuel
Building 21	UST 21-1	250	Gasoline
Building 24	UST 24	1,000	Diesel fuel
Building 30	UST 30-1	1,000	Gasoline
Building 33	UST 33	550	Diesel fuel
Building 40	UST 40-1	>3,000	Diesel fuel
	UST 40-2	>3,000	Diesel fuel
Building 45 area*	UST S-941-1	6,000	Diesel fuel
	UST S-941-2	550	Gasoline
	UST	500	Diesel fuel
	UST 45-1	1,000	Waste oil
Building 61	UST 61	500	Diesel fuel
Building 311	UST	551	Kerosene
Building 331	UST 331	500	Diesel fuel
Building 333	UST 333-B	500	Diesel fuel
Building 575	UST 575-2	6,000	Diesel fuel
Building 645 area*	AST 645	110	Gasoline
Building 712	UST 712	516	Diesel fuel
Building 728	UST	250	Diesel fuel
	UST	550	Waste oil
Building 738	UST	1,000	Diesel fuel
Building 820*	UST 820-1	10,000	Diesel fuel
	UST 820-2	10,000	Gasoline
	UST 820-3	10,000	Gasoline
	UST 820-4	10,000	Gasoline
Building 900*	UST 900	5,000	Gasoline/diesel fuel
Building 901	UST	2,000	Waste oil
Building 903	UST 903	550	Kerosene
Building 1100/ 1115 area*	UST 1100-1	1,000	Gasoline
	UST 1100-2	3,000	Gasoline
	UST 1100-3	3,000	Gasoline
	UST 1100-4	5,000	Gasoline/diesel fuel
	UST 1100-5	5,000	Gasoline/diesel fuel
	UST 1100-6	5,000	Gasoline/diesel fuel
	UST 1100-7	5,000	Gasoline/diesel fuel
Building 1106*	UST 1106	550	Waste oil
Building 1117	UST	550	Diesel fuel

Site name ¹	Tank name	Tank capacity, in gallons	Tank contents
Building 1310	UST	550	Waste oil
Building 1323	UST	20	Hydraulic oil
	UST	20	Hydraulic oil
	UST 1323-1	4,000	JP-8
	UST 1323-2	4,000	JP-8
	UST 1323-3	600	Waste oil
Building 1450*	UST 1450-1	6,000	Diesel fuel
	UST 1450-2	6,000	Diesel fuel
	UST 1450-3	6,000	Diesel fuel
	UST 1450-4	6,000	Diesel fuel
	UST 1450-5	280 or 400	Diesel fuel/waste oil
	UST 1450-6	280 or 700	Waste oil
	UST 1450-7	400 or 500	Waste oil
Building 1502*	UST 1502	550	Waste oil
	UST 1502-1	560	Diesel fuel/waste oil
	UST 1502-2	560	Gasoline
	UST 1502-3	560	Diesel fuel
	UST 1502-4	560	Gasoline
Building 1601*	UST 1601	1,600	Waste oil
	UST 1601-1	N/A	Gasoline/diesel fuel
	UST 1601-2	N/A	Gasoline/diesel fuel
	UST 1601-3	N/A	Gasoline/diesel fuel
Building 1607	UST 1607-1	550	Waste oil
	UST 1607-2	250	Waste oil
Building 1613*	UST 1613-1	30,000	Gasoline
	UST 1613-2	30,000	Gasoline
	UST 1613-3	10,000	Gasoline
	UST 1613-4	9,000	Gasoline
Building 1705	UST	563	Diesel fuel
Building 1765	UST	1,000	N/A
Building 1775	UST 1775-1	6,000	N/A
	UST 1775-2	6,000	N/A
	UST 1775-3	1,000	N/A
	UST 1775-4	1,000	N/A
	UST 1775-5	1,000	N/A
Building 1780	UST 1780-1	1,000	N/A
	UST 1780-2	1,000	N/A

Table D2. Sites of RCRA investigations and tank removal at underground and above-ground storage tank locations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; UST, underground storage tank; AST, above-ground storage tank; >, greater than; <, less than; N/A, data not available; FC, Frenchs Creek; H, Hospital; HP, Hospital Point; HPFF, Hadnot Point Fuel Farm; LCH, Low Cost Housing; NH, New Hospital; MRFF, Michael Road Fuel Farm]

Site name ¹	Tank name	Tank capacity, in gallons	Tank contents
Building 1817	UST	300	Waste oil
Building 1854	UST 1854-1	2,000	Waste oil
	UST 1854-2	30,000	Diesel fuel
	UST 1854-3	30,000	Diesel fuel
	UST 1854-4	1,000	N/A
	UST 1854-5	6,000	N/A
	UST 1854-6	6,000	N/A
Building 1860	UST	550	N/A
Building 1880	UST 1880-1	10,000	N/A
	UST 1880-2	6,000	N/A
	UST 1880-3	550	Waste oil
Building 1919	UST 1919-1	285	Diesel fuel
	UST 1919-2	285	Diesel fuel
	UST 1919-3	1,000	Gasoline
Building 1932	UST 1932-2	550	Diesel fuel
	UST 1932/S-1920	1,000	Gasoline
Building 5400	UST	10,000	Diesel fuel
Building FC40	UST FC40-3	1,000	Waste oil
Building FC102	UST	1,000	Waste oil
Building FC120	UST	1,000	Waste oil
Building FC190	UST FC190-1	550	Waste oil
	UST FC190-2	550	Waste oil
Building FC201	UST	550	Waste oil
Building FC251*	UST FC251-1	5,000	Waste oil
	UST FC251-2	5,000	Diesel fuel
	UST FC251-3	5,000	Gasoline
Building FC263	UST FC263-5	1,000	Waste oil
Building FC280	UST	550	Diesel fuel
Building FC281	UST FC281-1	6,000	Diesel fuel
	UST FC281-2	6,000	Diesel fuel
Building FC286	UST FC286	1,000	Waste oil
Building H19	UST H19-1	15,000	Diesel fuel
	UST H19-2	15,000	Diesel fuel
	UST H19-3	5,000	Waste oil
Building H28	UST H28-1	550	Diesel fuel
Building H30	UST H30-1	560	Diesel fuel
	UST H30-2	560	Diesel fuel
Building H31	UST H31-1	560	Diesel fuel
	UST H31-2	560	Diesel fuel
Building HP100	UST HP100-3	550	Waste oil
Building HP250	UST HP250-1	4,000	Diesel fuel
	UST HP250-2	550	Diesel fuel
	UST HP250-3	550	Diesel fuel
Building LCH4005	UST	94	Gasoline
Building LCH4015 area*	AST LCH 4015-1	15,000	Gasoline
	AST LCH 4015-2	15,000	Gasoline
	AST LCH 4015-3	15,000	Diesel fuel
	AST LCH 4014-4	3,000	Diesel fuel
	AST	<500	Diesel fuel/kerosene
	AST	<500	Diesel fuel/kerosene
Building LCH4022*	UST	1,000 or 1,518	Diesel fuel
Building LCH4025	UST	1,000	Diesel fuel
Building LCH4034	UST LCH 4034-1	10,000	Gasoline
	UST LCH 4034-2	10,000	Gasoline
	UST LCH 4034-3	2,500	Gasoline
Building NH100	UST NH 100-101	20,000	Diesel fuel
	UST NH 100-102	20,000	Diesel fuel
	UST NH 100-103	20,000	Diesel fuel
	UST NH 100-104	20,000	Diesel fuel
Building NH118	UST NH 118-3	280	Waste oil
Building PP3311	UST	285	Diesel fuel
Building PP3322	UST	285	Diesel fuel

Table D2. Sites of RCRA investigations and tank removal at underground and above-ground storage tank locations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[RCRA, Resource Conservation and Recovery Act; UST, underground storage tank; AST, above-ground storage tank; >, greater than; <, less than; N/A, data not available; FC, Frenchs Creek; H, Hospital; HP, Hospital Point; HPFF, Hadnot Point Fuel Farm; LCH, Low Cost Housing; NH, New Hospital; MRFF, Michael Road Fuel Farm]

Site name ¹	Tank name	Tank capacity, in gallons	Tank contents
Building PP3326	UST	285	Diesel fuel
Building PP3330	UST	285	Diesel fuel
Building PP3332	UST	285	Diesel fuel
Building PP3340	UST	285	Diesel fuel
Building PP3343	UST	285	Diesel fuel
Building PP3350	UST	285	Diesel fuel
Building PP3354	UST	285	Diesel fuel
Building PP3358	UST	285	Diesel fuel
Building PP3363	UST	550	Diesel fuel
Building PT5	UST	500	Diesel fuel
Building PT37	UST	550	Diesel fuel
Building S688	UST	2,500	Diesel fuel
Building S1813	UST S1813-1	5,000	Gasoline
	UST S1813-2	10,000	Diesel fuel
Building S1840	UST S1840-3	5,000	Gasoline
	UST S1840-4	10,000	Diesel
Building S1856	AST S1856-1	600	Waste oil
	AST S1856-2	600	Waste oil
	AST S1856-3	600	Waste oil
	AST S1856-4	600	Waste oil
	AST S1856-5	600	Waste oil
	AST S1856-6	600	Waste oil
Building S2633	UST	150	Gasoline
Building SLCH4019*	UST	500 or 550	Diesel fuel
Building SLCH4024	AST SLCH 4024-1	15,000	Gasoline
	AST SLCH 4024-2	15,000	Gasoline
	AST SLCH 4022-3	15,000	Gasoline

Site name ¹	Tank name	Tank capacity, in gallons	Tank contents
HPFF area*	UST S-1036	15,000	Gasoline/kerosene
	UST S-1034	12,000	Gasoline/kerosene
	UST S-1033	12,000	Gasoline/kerosene
	UST S-1031	15,000	Gasoline/kerosene
	UST S-1029	15,000	Gasoline/kerosene
	UST S-1027	15,000	Gasoline/kerosene
	UST S-1025	12,000	Gasoline/kerosene
	UST S-1023	12,000	Gasoline/kerosene
	UST S-1035	15,000	Gasoline/kerosene
	AST S-1009	600,000	Diesel fuel
	UST S-1032	12,000	Gasoline/kerosene
	UST S-1030	12,000	Gasoline/kerosene
	UST S-1028	15,000	Gasoline/kerosene
	UST S-1026	15,000	Gasoline/kerosene
	UST S-1024	15,000	Gasoline/kerosene
	MRFF*	UST T-1002A	1,000
UST T-1002B		1,000	Gasoline
UST T-1002C		1,000	Gasoline
UST T-1002D		1,000	Kerosene
UST T-1002E		1,000	Gasoline
UST T-10024		2,846	Kerosene
UST T-10025		2,846	Kerosene
UST 961-1		2,500	Gasoline/JP-8/kerosene
Tank S781		AST S781	176,000
Tanks S889–S891	AST S889	17,585	Waste oil
	AST S891	30,000	Waste oil

Table D2. Sites of RCRA investigations and tank removal at underground and above-ground storage tank locations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; UST, underground storage tank; AST, above-ground storage tank; >, greater than; <, less than; N/A, data not available; FC, Frenchs Creek; H, Hospital; HP, Hospital Point; HPPF, Hadnot Point Fuel Farm; LCH, Low Cost Housing; NH, New Hospital; MRFF, Michael Road Fuel Farm]

¹See Faye et al. 2010 (Plate 1) and Figure D3 for site locations

*Site discussed in text

Data sources:

UST Management Web Portal files #49, #63, #64, #67, #68, #70, #76, #78, #79, #86, #99, #101, #103, #116, #120, #129, #130, #131, #137, #139, #152, #153, #155, #156, #163, #164, #172, #180, #187, #195, #208, #227, #228, #230, #237, #267, #268, #269, #346, #354, #359, #368, #383, #385, #390, #391, #392, #408, #418, #465, #484, #508, #532, #535, #548, #576, #577, #578, #581, #582, #585, #586, #589, #592, #597, #599, #603, #604, #607, #614, #619, #620, #642, #643, #647, #652, #669, #705, #710, #715, #716, #719, #724, #725, #730, #735, #737, #740, #756, #761, #1199, #1201, #1323_UST12, #20070802_010, #30_2008ROF_FINAL, #204100_MRFF_Phase_I_LSA, #PP-3350_SAR, #UST_1323-3_Phase_I_LSA, CERCLA Administrative Record file #2979

ARM Environmental Services, Inc. 1995abcd

ATEC Environmental Consultants, Inc. 1992ab

Baker Environmental, Inc 1993c

Barnes Electric 1995ab

Catlin Engineers and Scientists, 1997, 1998a, 1999ab, 2001cde, 2002efghijkl, 2003abcdh, 2005f

Dewberry and Davis 1994

Eastern Environmental 1994ab

Environmental and Regulatory Consultants, Inc. 1994

Geosciences, Inc. 1995abcdefghi

Groundwater Technology Government Services, Inc. 1993abcdfg

J.A. Jones Environmental Services Company 2003

Law Engineering, Inc. 1994a, 1995ab, 1996ab

Law Engineering and Environmental Services, Inc. 1996abgi, 1997bcdef, 1998c, 2000cdefg, 2001ab, 2002ab

Mid-Atlantic Associates, P.A. 2002

Mid-Atlantic Associates, Inc. 2003a

O'Brien and Gere Engineers, Inc. 1988, 1992b

Osage of Virginia, Inc. 2008

Peele's Pump and Tank Company 1993abc, 1995

R.E. Wright Environmental, Inc. 1995d

R.E. Wright Associates, Inc. 1994adef

SCS Engineers 1977

Richard Catlin and Associates, Inc. 1995bc, 1996abeg, 1997a, 1998b

Shaw Environmental and Infrastructure, Inc. 2011

Versar, Inc. 1992

Table D3. Underground and above-ground storage tank sites identified in this report, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[—, no site narrative; FC, Frenchs Creek; H, Hospital; HP, Hospital Point; HPFF, Hadnot Point Fuel Farm; LCH, Low Cost Housing; MRFF, Michael Road Fuel Farm; NH, New Hospital]

Site name	Page number of site narrative	Associated data tables	Associated figure(s)
Building 20	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 21	D70	D2–D7	Faye et al. 2010 (Plate 1), D5
Building 24	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 30	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 33	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building 45 area	D18–D20	D2–D7	Faye et al. 2010 (Plate 1), D5–D6
Building 61	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building 311	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 331	—	D2–D4, D6–D7	Faye et al. 2010 (Plate 1), D5
Building 575	—	D2–D4, D6	D5
Building 645 area	D21–D23	D2–D7	Faye et al. 2010 (Plate 1), D5, D7–D8
Building 728	D70	D2–D7	Faye et al. 2010 (Plate 1), D5
Building 820	D24–D27	D2–D7	Faye et al. 2010 (Plate 1), D5, D9–D10
Building 900	D27–D29	D2–D7	Faye et al. 2010 (Plate 1), D5, D11–D12
Building 903	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building 1101	D44–D56	D2–D6, D9	Faye et al. 2010 (Plate 1), D5, D20–D29
Building 1106	D66	D2–D7	Faye et al. 2010 (Plate 1), D5, D20–D21, D24–D29
Building 1115	D44–D56	D2–D7, D9	Faye et al. 2010 (Plate 1), D5, D20–D34
Building 1310	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 1323	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building 1450	D66–D68	D2–D7	Faye et al. 2010 (Plate 1), D5, D35
Building 1502	D68–D69	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 1601	D68–D69	D2–D5, D7	Faye et al. 2010 (Plate 1), D5
Building 1607	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 1613 area	D31–D34	D2–D7	Faye et al. 2010 (Plate 1), D5, D13–D14
Building 1804	—	—	Faye et al. 2010 (Plate 1), D5
Building 1817	D70	D2–D6	D5
Building 1854	—	D2–D4, D6–D7	Faye et al. 2010 (Plate 1), D5
Building 1880	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building 1919	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building 1932	—	D2–D6	D5
Building 5400	—	D2–D4, D6–D7	Faye et al. 2010 (Plate 1), D5
Building FC40	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building FC102	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building FC120	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building FC201	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building FC251	D34–D35	D2–D7	Faye et al. 2010 (Plate 1), D5, D15
Building FC263	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building FC280	—	D2–D4, D6	D5
Building FC281	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5

Table D3. Underground and above-ground storage tank sites identified in this report, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[—, no site narrative; FC, Frenchs Creek; H, Hospital; HP, Hospital Point; HPFF, Hadnot Point Fuel Farm; LCH, Low Cost Housing; MRFF, Michael Road Fuel Farm; NH, New Hospital]

Site name	Page number of site narrative	Associated data tables	Associated figure(s)
Building H19	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building H28	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building H30	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building H31	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building HP100	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building HP250	—	D2–D4, D6	D5
Building LCH4015	D36–D39	D2–D7	Faye et al. 2010 (Plate 1), D5, D16–D17
Building LCH4022	D40–D41	D2–D7	Faye et al. 2010 (Plate 1), D5, D18
Building NH100	—	D4, D6	Faye et al. 2010 (Plate 1), D5
Building NH118	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building PP3311	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building PP3322	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building PP3332	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building PP3340	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building PP3354	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building PP3363	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building PT5	—	D2–D4, D6–D7	D5
Building PT37	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building S688	—	D2–D4, D6	Faye et al. 2010 (Plate 1), D5
Building S1856	—	D2–D7	Faye et al. 2010 (Plate 1), D5
Building S2633	—	D2–D6	Faye et al. 2010 (Plate 1), D5
Building SLCH4019	D42–D43	D2–D7	Faye et al. 2010 (Plate 1), D5, D19
HPFF	D44–D56	D2–D7, D9	Faye et al. 2010 (Plate 1), D5, D20–D34
MRFF	D56	D4, D6	Faye et al. 2010 (Plate 1), D5
Tank S781	D31–D34	D2–D6	Faye et al. 2010 (Plate 1), D5
Tanks S889&S891	—	D2–D7	Faye et al. 2010 (Plate 1), D5

Purpose and Scope

This report primarily documents and summarizes occurrences of BTEX components within groundwater at sites of RCRA investigations within the Hadnot Point–Holcomb Boulevard study area (Faye et al. 2010, Plate 1) (Figure D4). Occurrences of other contaminants of concern, such as TCE, are also accounted for when analyses for them were accomplished during RCRA investigations. At several RCRA AST and UST sites, groundwater contamination by BTEX components is extensive and occurs in relatively close proximity to historical water-supply wells. Such sites are of primary interest to this study.

Note that this report is not intended to be a complete or even a substantial summary or representation of all RCRA investigations within the Hadnot Point–Holcomb Boulevard study area nor is it intended to discuss compliance or non-compliance with RCRA regulations at AST and UST sites in the study area. Rather, the report is intended to provide sufficient bases of information to support a successful conclusion to ATSDR's historical reconstruction–epidemiological study.

Methods and Approach

Data compiled and organized for this study were extracted from hundreds of source documents, including site check and site assessment reports and corrective action plans, pertinent to locations of groundwater contamination by BTEX components within the study area. Almost all of these documents were obtained from the USMCB Camp Lejeune UST Management Web Portal and are identified in the References list herein as a document of the UST Management Web Portal.⁷ Other documents were obtained from the CERCLA Administrative Record file and are so designated in the reference list. Each document is identified with a unique file name or number. Documents that are sources of data used in a particular table herein are listed by file number or name, along with the respective citation, under the heading “Data sources” at the bottom of the table.

Sites of leaking ASTs and USTs proximate to or in the vicinity of water-supply wells and where groundwater contamination by refined petroleum products is extensive are described herein in relative detail. Sites thus described herein are noted by an asterisk (*) in Table D2. Such descriptions include a brief site history, a map or maps showing locations of monitor wells and other data-collection locations, a map

or maps showing contaminant plumes, and, at selected sites, section diagrams showing the vertical extent of contamination in the subsurface. Because primary calibration of the flow and fate and transport models emphasizes pre-remediation conditions, descriptions and discussions of groundwater contamination at these sites are largely based on the earliest pertinent data collected prior to the onset of remediation. Characterization of contaminant sources is also an important aspect of fate and transport model calibration, and, as such, petroleum product mass removed from the subsurface by remediation is frequently described. Occurrences of BTEX components in groundwater mixed with chlorinated alkenes, such as PCE or TCE, potentially can enhance subsurface degradation of PCE and TCE. Accordingly, where monitor well data indicate mixed plumes of chlorinated alkenes and BTEX components, such data are briefly discussed (Wiedemeier et al. 1998). Pertinent data from all AST and UST sites in the study area are listed in Tables D4–D7 (in back of report) (Barbara A. Anderson, Agency for Toxic Substances and Disease Registry, written communications, November 2010–April 2011).

At sites listed in Table D2 not identified by an asterisk (*), groundwater contamination is recognized as local or does not occur at all, and corresponding documentation of groundwater contamination is limited to as few as one or two characterization or assessment reports or perhaps simply documentation of tank removal. Pertinent contaminant data from these sites are not discussed herein. Note that the occurrence and concentration of other constituents, such as semi-volatile organic compounds and metals, in groundwater were also determined during many RCRA investigations of leaking ASTs and USTs within the study area. These constituents are also not discussed herein. Tank data listed in Table D2 refer only to tanks removed from the site and not to currently (2012) active tanks.

UST sites Building 45, Building 1613, and Hadnot Point Fuel Farm (HPFF) are partly or entirely co-located with IRP sites 84, 94, and 22, respectively (Faye et al. 2010, Plate 1), and are discussed in detail in Faye et al. (2010). Accordingly, discussions herein of groundwater contamination at these locations are generally limited to significant findings and interpretations following publication of data referred to in Faye et al. (2010). In addition, assessments and characterizations of groundwater contamination at the HPFF, located in the HPIA (Faye et al. 2010, Plate 1) (Figures D4, D5), generally also include descriptions of contamination in the vicinities of Buildings 1100, 1101, and 1115.

The majority of groundwater contaminant data collected at sites of RCRA investigations were obtained from analyses of water samples collected in monitor wells (Tables D4–D5). Construction data, such as screened interval, location coordinates, contributing aquifer(s), and date of construction, for all monitor wells of interest to this study are listed in Table D6. Similarly, location coordinates, sample interval, and corresponding geohydrologic unit(s) at locations of geoprobe and

⁷ Access to the UST Management Web Portal files was provided to ATSDR by the U.S. Marine Corps on March 1, 2010. Documents accessed by ATSDR were under the terms of “For Official Use Only” (FOUO).

hydropunch sample locations are listed in Table D7. Monitor well names and geoprobe/hydropunch sample locations at each UST site begin with an abbreviated site name. For example, monitor wells at UST Site Building 21 have names that begin with the prefix Bldg21 followed by the monitor well number, such as Bldg21_MW01 (Tables D4–D6).

Land-surface altitudes at monitor well locations (Tables D6–D7) were either obtained directly from site assessment and characterization reports (see CERCLA Administrative Record file reports and UST Web Portal file reports in the References section), calculated from relevant information provided in these reports, or estimated using a digital elevation model (DEM). Calculated land-surface altitudes were based on reported top-of-casing altitudes and corresponding reported lengths of the casing riser above or below land surface. Land-surface or top-of-casing altitudes obtained from reported information were predominantly based on the National Geodetic Vertical Datum of 1929 (NGVD 29). In several reports, however, the relevant datum was simply reported as “mean sea level,” or a reference to a vertical datum was omitted entirely. The vertical datum used to assign a land-surface altitude to borehole data extracted from these reports was also presumed to be NGVD 29. The vertical datum reportedly used to assign top-of-casing altitudes included in at least one report published between 2005 and 2008 was the North American Vertical Datum of 1988 (NAVD 88). For consistency these data were converted to NGVD 29, as reported herein. During the same time period, resurveys of top-of-casing altitudes were conducted at monitor wells at most UST and IRP sites within the HPIA, including the HPFF and Building 1115, at UST site Building 820, and at UST site Building 645. More than likely, these surveys were conducted using highly accurate global positioning satellite (GPS) techniques and, as such, the top-of-casing altitudes at the respective well locations were adopted for this study to calculate land-surface altitude (Tables D6–D7) (Shaw Environmental, Inc. 2007a,b; Catlin Engineers and Scientists 2008).

Geohydrologic Framework

Fourteen aquifers and confining units were identified for this study within the Hadnot Point–Holcomb Boulevard study area and were named after local cultural features where the units were first identified or as subdivisions of the Castle Hayne Formation (Harned et al. 1989; Geophex, Ltd. 1994, Appendixes E, F; Faye 2012). Named geohydrologic units and unit thicknesses are listed in Table D8. Sediments correlated with the Brewster Boulevard aquifer and confining unit by Faye (2007) between Northeast and Wallace Creeks thicken considerably south of Wallace Creek and were subdivided, for purposes of this study, into two aquifers and two confining units, all assigned to the Brewster Boulevard aquifer system. With the exception of the Brewster Boulevard aquifer system,

Table D8. Geohydrologic units and unit thickness within the Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[Units are listed shallowest to deepest and youngest to oldest; N/A, not available]

Geohydrologic unit	Thickness range, in feet
Brewster Boulevard aquifer system	
Brewster Boulevard upper aquifer	4 to 42
Brewster Boulevard upper confining unit	1 to 22
Brewster Boulevard lower aquifer	4 to 48
Brewster Boulevard lower confining unit	2 to 30
Tarawa Terrace aquifer	8 to 86
Castle Hayne aquifer system	
Upper Castle Hayne aquifer confining unit	4 to 40
Upper Castle Hayne aquifer–River Bend unit	16 to 70
Local confining unit	8 to 23
Upper Castle Hayne aquifer–Lower unit	10 to 48
Middle Castle Hayne confining unit	12 to 27
Middle Castle Hayne aquifer	62 to 122
Lower Castle Hayne confining unit	18 to 38
Lower Castle Hayne aquifer	64 to 86
Beaufort confining unit	N/A

geohydrologic units listed in Table D8 correspond, with minor changes, one-to-one to units previously identified and described by Faye (2007) between Northeast and Wallace Creeks (Faye 2012). The name of the Tarawa Terrace confining unit described by Faye (2007) was changed in Faye (2012) to the “Upper Castle Hayne confining unit,” which is the name also used in this report.

The base of the Lower Castle Hayne aquifer occurs at the top of the Beaufort confining unit and corresponds, within most of the study area, to the base of freshwater flow. Freshwater is defined herein as water containing a concentration of total dissolved solids less than 5,000 milligrams per liter (mg/L). The top of freshwater flow occurs everywhere at the water table, which fluctuates seasonally over a range of about 10 feet (ft) or less. Depending on location, whether north or south within the study area or highland or lowland, the water table generally occurs in the lower or upper part of the Brewster Boulevard aquifer system, respectively, or within the Tarawa Terrace aquifer.

Aquifers of the Castle Hayne aquifer system comprise the major water-bearing units of the study area and are composed largely of fine silty and clayey sand and sandy limestone. Confining units are clay, sandy clay, or silty clay. For detailed descriptions of framework geometry and well, borehole, and geophysical data used to define the geohydrologic framework of the study area, refer to Chapter B of the Hadnot Point–Holcomb Boulevard series of reports (Faye 2012).

Selected RCRA Site Investigations and Histories

The following sections of this report include short narratives describing groundwater contamination by BTEX components at selected sites of RCRA investigations within the Hadnot Point–Holcomb Boulevard study area. Tabulated contaminant concentrations in monitor wells and at locations of geoprobe and hydropunch sample collection, along with associated maps and section diagrams, augment the site narratives (Tables D4–D7; Figures D6–D35). Infrequently these narratives will include references to street or road names not shown in Faye et al. (2010, Plate 1) or on local area maps. These names are provided for future orientation of the reader to the specific areas or locations under discussion.

Although not specifically directed at subsurface contamination, an early (1976) survey of “oil pollution” conducted at USMCB Camp Lejeune provided substantial background information with respect to the large- and small-scale storage and transfer of refined petroleum products and associated “potential or actual oil spill situations” within the Hadnot Point–Holcomb Boulevard study area (SCS Engineers 1977). Many of the building locations listed in Table D3 are described in the survey along with proximate storage tanks, tank contents, and tank volumes. Most importantly for this study, descriptions of oil-saturated soils in the immediate vicinity of storage tanks and drums, along with occasional descriptions of product migration away from storage facilities, provide insight into possible sources and magnitudes of subsurface contamination by BTEX components more than a decade prior to the onset of CERCLA and RCRA investigations of groundwater contamination in the study area. For example, probable spills related to the transfer of waste product from tank trucks to storage drums at the HPPF apparently resulted in the flow of fuel oils approximately 25 yards from the point of transfer to a drainage swale. Soil conditions between the transfer point and the swale are described in the following quotation (SCS Engineers 1977): “The soil between the drums and the storm drainage swale is saturated with oil, which is indicative of overflows.”

UST Site Building 45

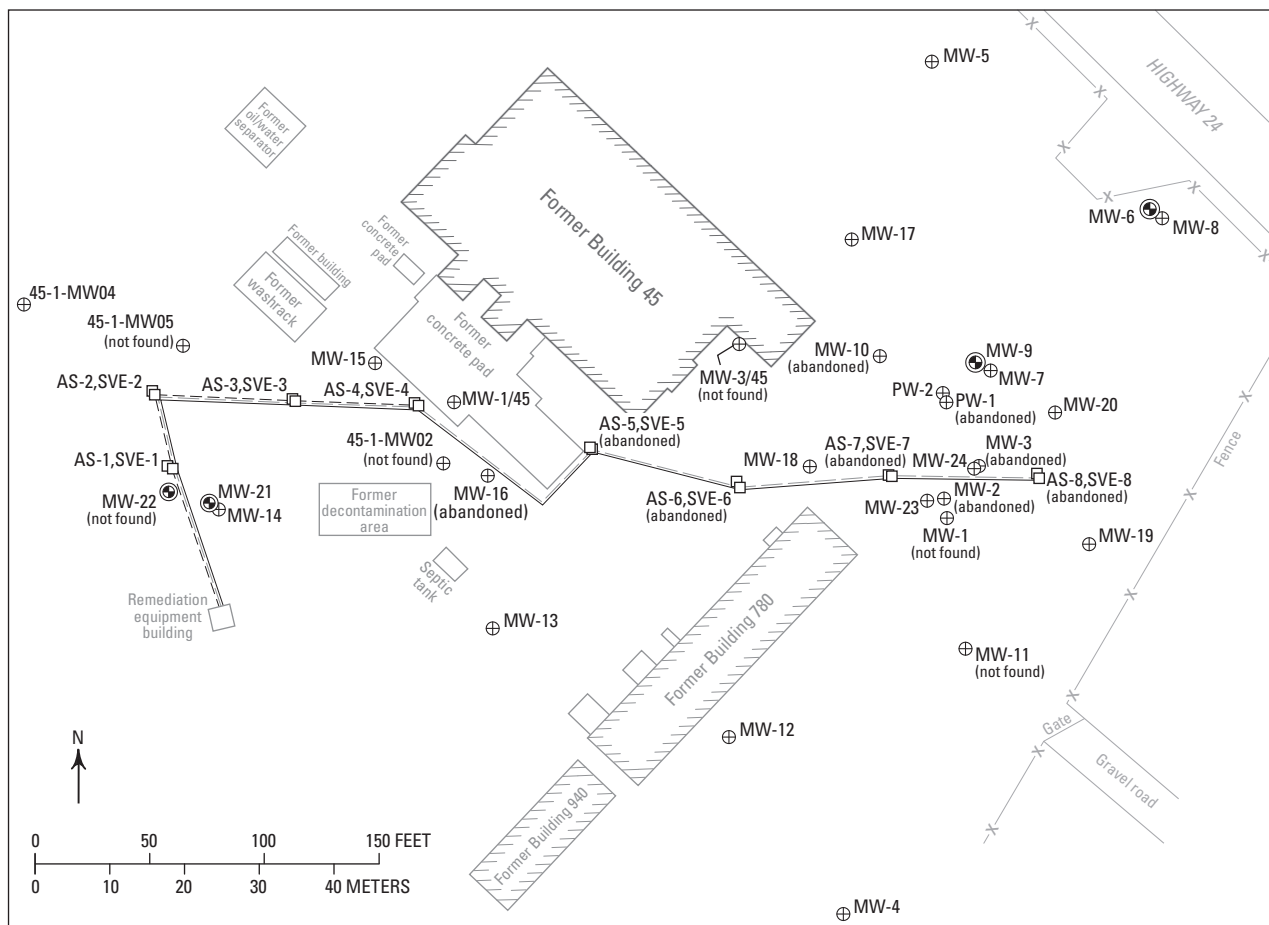
Groundwater and soil contamination by BTEX components in the vicinity of Building 45 and AST S781 is summarized in Chapter C as part of the descriptions of site assessment and site characterization results for CERCLA (IRP) Site 84 (Faye et al. 2010, pages C52–C55, Tables C61–C65). The area of investigation of IRP Site 84 is largely coincident with UST Site Building 45. The history of groundwater monitoring and remediation activities at IRP Site 84 is summarized in Faye et al. (2010). Locations of monitor wells constructed

as part of IRP investigations at Site 84 are shown in Faye et al. (2010, Figure C25). Additional data summarized herein include construction data for monitor wells Bldg45-MW23 and Bldg45_MW24 and extraction well Bldg45_PW02 (Table D6) and selected analytical results for samples collected in designated Building 45 monitor wells. Each newly constructed well was screened open to the Brewster Boulevard lower and Tarawa Terrace aquifers and the Brewster Boulevard lower confining unit. These wells replaced monitor wells Bldg45_MW02 (ATEC)⁸ and Bldg45_MW03 (ATEC) and extraction well Bldg45_PW01, which were destroyed in 2002 during soil-removal activities initiated by the IRP. Locations of active and abandoned monitor wells as of October 2005 at this UST site are shown in Figure D6.

The initial RCRA assessment of BTEX contamination in the subsurface and in groundwater at and in the vicinity of UST site Building 45 was conducted by Law Engineering, Inc. (1994a). A corrective action plan for the remediation of BTEX contamination of soil and groundwater was developed in 1996 by Law Engineering and Environmental Services, Inc. (1996d). Sources of BTEX components in groundwater at UST Site Building 45 were two USTs with probable leaking piping and linkage connections located in the vicinity of Building 45 (S941-1 and S941-2, Table D2) and in the immediate vicinity of monitor wells MW-1, MW-2, and MW-3, as shown in Figure D6. A third leaking UST was located in the vicinity of monitor wells MW-1/45 and MW-15. A possible additional BTEX source was AST tank S781, located northwest of Building 45 (O’Brien and Gere Engineers, Inc. 1992b, 1993, Table 2; Faye et al. 2010). A timeframe for when BTEX components were first leaked to the surface and subsurface at UST Site Building 45 is unknown; however, the Oil Pollution Survey conducted in 1976 and noted previously herein described surface soils saturated with oil in the vicinity of AST S781 and Building 45 (SCS Engineers 1977). Building 45 served as a heavy equipment maintenance and storage facility. Tank S781 was in place when the U.S. Marine Corps acquired the property in 1941. USTs S941-1 and S941-2 were installed during 1941, probably in conjunction with the construction of Building 45 (Law Engineering, Inc. 1994a).

The installation of an air sparge/soil vapor extraction (AS/SVE) system at UST Site Building 45 was completed and activated by April 1998. At this time, the system consisted of eight air sparge wells and eight soil vapor extraction wells. Apparently, the air sparge wells were constructed open to the Tarawa Terrace aquifer between 45 and 50 ft below ground surface (bgs). The soil vapor extraction wells were constructed open to the unsaturated zone to a total depth of 6 ft bgs. During several soil excavations conducted by the IRP, four air sparge and four soil vapor extraction wells were

⁸ The name inside parentheses following monitor well identification (e.g., ATEC), refers to the firm or contractor that drilled and constructed the monitor well.



EXPLANATION

- Air sparge compressed air line
- Soil vapor extraction line
- - - Existing
- - - Abandoned
- Site type and identifier**
- MW-15 ⊕ Shallow monitoring
- MW-6 ⊕ Deep monitoring well
- AS-1,SVE-1 □ Air sparge/soil vapor extraction vaults

- NOTES:**
1. Location identified as MW-21 based on field label.
 2. Location identified as MW-22 could not be found and identification is assumed.

Figure D6. Monitor well locations and air sparge/soil vapor extraction network at Underground Storage Tank Program Site Building 45, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Engineering and Environment, Inc. 2005a).

destroyed. The remaining eight wells were operated until the AS/SVE system was shut down during November 2006. Because analyses of vapor samples collected from the AS/SVE operation were consistently below laboratory quantitation limits, hydrocarbon mass removed by the AS/SVE system during its period of operation (April 1998–November 2006) was apparently never computed (J.A. Jones Environmental Services Company 2002b; Shaw Environmental, Inc. 2004b; Sovereign Consulting, Inc. 2006b, 2008a). Periodic groundwater monitoring and sample collection from most monitor wells began during April 1998 in conjunction with the construction and initial operation of the remediation networks and continues in selected wells to the present day (2012) (Baker Environmental, Inc. and CH2MHill, Inc. 2002bc; J.A. Jones Environmental Services Company 2002b; Shaw Environmental, Inc. 2004c; Engineering and Environment, Inc. 2005a; Sovereign Consulting, Inc. 2006b, 2008a).

Concentrations of BTEX components substantially greater than detection limits occurred, for the most part, at monitor wells Bldg45_45-1-MW02 (Wright), Bldg45_45-1-MW03 (Wright), Bldg45_MW01 (ATEC), Bldg45_MW09 (Law), and Bldg45_MW15 (Law) and at pumped well Bldg45_PW01. The highest benzene concentration of 9,800 µg/L was observed in one sample collected in well Bldg45_MW01 (ATEC) during 1991. Benzene concentrations in well Bldg45_MW15 (Law) were detected at 3,800 µg/L during January 1994 and declined to less than detection limits (1.0 µg/L) by September 2003 (Table D3), probably as the result of remediation activities. Benzene concentrations at wells Bldg45_45-1-MW02 and -MW03 (Wright) varied considerably between June 1994 and July 2002, ranging, respectively, between below detection limits (1.0 µg/L) and 1,100 µg/L and 1,600 µg/L. Benzene concentrations in well Bldg45_45-1-MW02 were consistently high and frequently exceeded 100 µg/L. Benzene concentrations in monitor well Bldg45_MW09 (Law) were consistently greater than 5.0 µg/L between July 1999 and June 2007 and frequently exceeded 10 µg/L. Monitor well Bldg45_MW09 (Law) is open to the Tarawa Terrace aquifer between 45 and 50 ft bgs. That BTEX (LNAPL) components were observed at such depths indicates substantial downward vertical migration from the water table had occurred at UST Site Building 45. Such migration was probably by advection along downward vertical head gradients caused by pumping at the AS/SVE remediation array or at nearby supply wells (Table D4, Figure D6). The supply well most proximate to UST Site Building 45 is HP-704, at a distance of approximately 1,800 ft (Faye et al. 2010, Plate 1) (Figure D5). As of December 2001, no concentrations of BTEX components greater than detection limits were detected in supply well HP-704 (Faye et al. 2010).

Measurable free-phase hydrocarbon product⁹ occurred consistently in monitor well Bldg45_MW02 (ATEC) and somewhat less frequently in nearby well Bldg45_MW03 (ATEC) beginning in January 1994 and again during 1999. Maximum thicknesses during January 1994 were 2.29 ft and 0.50 ft, respectively, and thickness declined to 0.02 ft in both wells by June and September 1994. Between March 1994 and June 1995 about 8.4 gallons (gal) of free-phase hydrocarbon product were recovered at extraction well Bldg45_PW01 (Law Engineering and Environmental Services, Inc. 1996d; Faye et al. 2010, Table C65). Measurable free-phase hydrocarbon product occurred again in wells Bldg45_MW02 (ATEC) and Bldg45_MW03 (ATEC) during October and November 1999 at thicknesses of 3.82 and 1.28 ft, respectively. Thickness declined in well Bldg45_MW03 (ATEC) to 0.02 ft by May and August 2001 and to a trace in well Bldg45_MW02 (ATEC) by November 2001. Free-phase hydrocarbon product was also measured several times in well Bldg45_MW10 (Law) between April and November 1999. A maximum thickness of 1.06 ft occurred during November 1999. A thickness of 0.01 ft of free-phase hydrocarbon product was measured in well Bldg45_MW18 (Law) during April 1999. Free-phase hydrocarbon product thickness was also measured periodically in extraction well Bldg45_PW01 between October 1998 and April 1999. A maximum thickness of 0.08 ft was recorded during March 1999 (Engineering and Environment, Inc. 2005a). Between April 1999 and December 2001, a total of 30 aggressive fluid/vapor recovery (AFVR) events were conducted at wells Bldg45_MW02 (ATEC), Bldg45_MW03 (ATEC), and Bldg45_PW01, resulting in the recovery of 426 gal of free-phase hydrocarbon product. These events probably mitigated to an unknown degree the approximate benzene plume delineated in 1992 in conjunction with groundwater sampling at wells Bldg45-MW01, -MW02, and -MW03 (ATEC) and described in ATEC Environmental Consultants, Inc. (1992b) (Figure D6). A similar plume of aromatic hydrocarbons in approximately the same area and an additional plume of about the same dimensions located adjacent to and southwest of the former location of Building 45 were delineated by Shaw Environmental, Inc. (2004c, Figure 3–1).

Concentrations of PCE, TCE, and related degradation products were also determined in several samples collected from monitor wells at the UST Building 45 site. All concentrations of these constituents were at less than detection limits (Table D5).

⁹ The phrase “free-phase hydrocarbon product” is used throughout this report to indicate the occurrence of light nonaqueous phase (LNAPL) hydrocarbon liquids in the subsurface, such as gasoline, that remain undiluted by other gases or liquids present in the subsurface. Although the physical and chemical properties of the free-phase product may change over time, the product nonetheless remains a distinct phase of a non-aqueous hydrocarbon liquid in the subsurface. When specific concentrations of chemicals of concern are presented and discussed, the term BTEX or BTEX component is used.

UST Site Building 645

Building 645 formerly housed supply well HP-645 (Figure D2) along with related generator and auxiliary power equipment used to power the well pump. An AST used to store gasoline to power the auxiliary generator was located outside and immediately next to the building. Construction of supply well HP-645 was completed during August 1971 (Figure D2). Construction of Building 645 and installation of the AST probably followed shortly thereafter. Leaks directly from the AST or its related linkage and piping have been named as the source of gasoline contamination in the subsurface at this site. The record is unclear about whether the capacity of the AST was 50 gal or 110 gal (Engineering and Environment, Inc. 2006a). When BTEX components were first leaked to the surface and subsurface in the vicinity of Building 645 is unknown. Operation of supply well HP-645 was terminated during November 1986 because of observed BTEX contamination in water samples collected in the well (Geophex, Ltd. 1991; Faye et al. 2010, Table C10). Supply well HP-645 was constructed open to the Upper and Middle Castle Hayne aquifers (Faye et al. 2010, Table C4). During the fall of 1995, supply well HP-645 was permanently abandoned, and Building 645 was demolished (Engineering and Environment, Inc. 2006a).

Building 645 and supply well HP-645 were located near the intersection of Brewster and Holcomb Boulevards and immediately west of IRP Site 2 (Faye et al. 2010, Plate 1). Nearby supply wells included HP-644 and HP-643 to the west, HP-646 to the north, and HP-647 to the east (Faye et al. 2010, Plate 1). Brewster Junior High School (Building 40, Figure D7) is located across Brewster Boulevard approximately 600 ft southwest of Building 645. Benzene contamination was discovered in supply well HP-645 as early as November 1986 at a concentration of 20 µg/L. By February 1987, concentrations of all BTEX components were determined in supply well HP-645, ranging from 15 µg/L of toluene to 290 µg/L of benzene (Faye et al. 2010, Table C10). These discoveries initiated a series of site characterizations and assessments, and groundwater monitoring began in 1994 and continues to the present day (2012) (Tables D3, D5) (R.E. Wright Associates, Inc. 1994b; Richard Catlin and Associates, Inc. 1995a, 1996b; Geophex, Ltd. 2001; J.A. Jones Environmental Services Company 2001ab; Catlin Engineers and Scientists 2004a, 2008; Engineering and Environment, Inc. 2006a; Sovereign Consulting, Inc. 2006c, 2007ae, 2008b; Shaw Environmental, Inc. 2009a; Rhea Engineers and Consultants, Inc. 2010ab). A total of 37 monitor wells were constructed between 1993 and 2008 open to the Brewster Boulevard aquifer system, the Tarawa Terrace aquifer, and

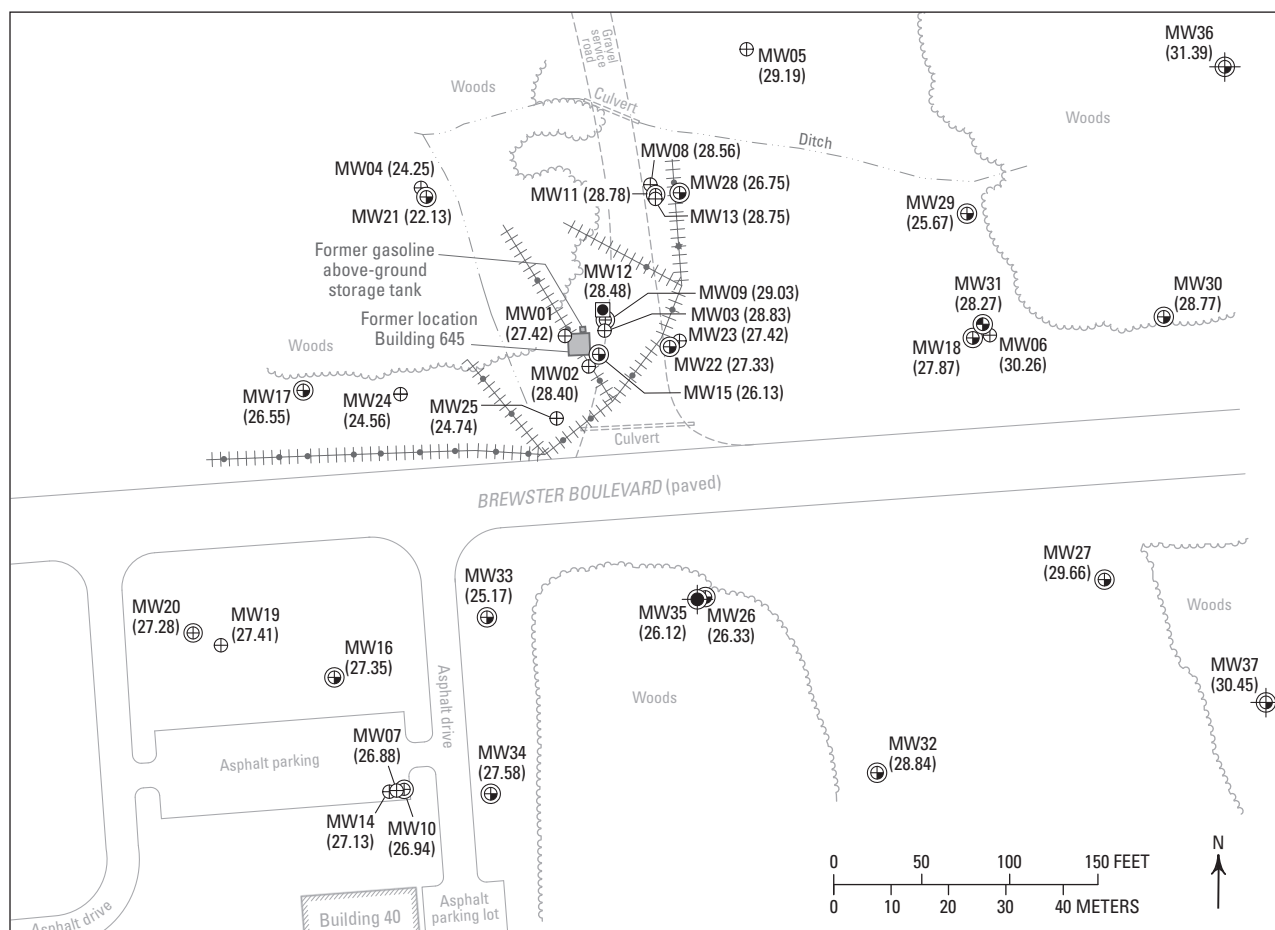
the Upper Castle Hayne aquifer–River bend unit (Figure D7, Table D6). Monitor well locations along with locations of direct push (DP) and hydropunch (HP) data collection locations are shown in Figures D7–D8 (Tables D6–D7). A soil and groundwater remediation (AS/SVE) system was installed during 1998 near and around the former site of Building 645 and began operation in September 1998. With the exception of routine maintenance, power outages, and other minor infrequent interruptions, such as a deliberate termination of operations during sampling at wells, the remediation system has operated continuously to the present day (2012). Of the 14 air sparge wells constructed at the Building 645 site, 6 were constructed open to the Upper Castle Hayne aquifer–River Bend unit, and 8 were constructed open to the Tarawa Terrace aquifer (J.A. Jones Environmental Services Company 2001a) (Table D6). The record of hydrocarbon mass removed from the subsurface at this site is fragmented. During September 1998, a total of about 14 pounds of hydrocarbon mass was removed from the SVE wells; between October 1998 and June 1999, none was removed by AS/SVE (J.A. Jones Environmental Services Company 2001a). Between January 6, 2005, and February 18, 2005, a total of 0.51 pound of hydrocarbon mass was removed from the subsurface by AS/SVE (Engineering and Environment, Inc. 2006a). Hydrocarbon mass removed by the remediation system was zero between September 9, 2008, and November 24, 2008, and between December 4, 2008, and January 19, 2009. By December 19, 2008, total hydrocarbon mass removed was about 408 pounds (Shaw Environmental, Inc. 2009a). Measurable thicknesses of free-phase hydrocarbon product were not reported in monitor wells at the UST Building 645 site.

Early sampling at monitor wells during October 1993–March 1996 provided sufficient BTEX component concentrations to approximately delineate the areal extent of component plumes (Table D4). Figure D8 shows the approximate areal extent of a benzene plume within the Brewster Boulevard aquifer system and the Tarawa Terrace aquifer during that time. The plume is centered on the former location of Building 645 and extends southwest toward Brewster Junior High School. Benzene concentrations within the approximate area of the plume ranged from below detection limits to about 3,550 µg/L in the immediate vicinity of Building 645. Later sampling at monitor well Bldg645_MW18, open to the Upper Castle Hayne aquifer–River Bend unit, indicated benzene concentrations ranging from a minimum of 0.82 µg/L to a maximum of 2,100 µg/L during a period of record from July 1998 to April 2008. Concentrations of toluene, ethylbenzene, and xylenes were also consistently high during this period, ranging from less than 2.0 µg/L to 3,570 µg/L (Table D4). Monitor well Bldg645_MW18

Selected RCRA Site Investigations and Histories

is located approximately 230 ft east of former supply well HP-645. Monitor wells Bldg645_MW26–Bldg645_MW37 were constructed between January 2006 and February 2008, all open to the Upper Castle Hayne aquifer–River Bend unit (Table D6, Figure D7). Concentrations of BTEX components were high in monitor wells Bldg645_MW26, Bldg645_MW27, and Bldg645_MW29 between January 2007

and April 2008. Benzene concentrations in well Bldg_MW26 ranged between 1,180 µg/L and 3,260 µg/L (Table D4). These wells are also located east and southeast of the location of former supply well HP-645, and the respective concentration data indicate that a substantial plume of BTEX components occurred at the UST Building 645 site within the Upper Castle Hayne aquifer–River Bend unit as late as 2008



EXPLANATION

||||| SVE vapor extraction slotted PVC line (typical)

Soil vent boring gravel packed (typical)

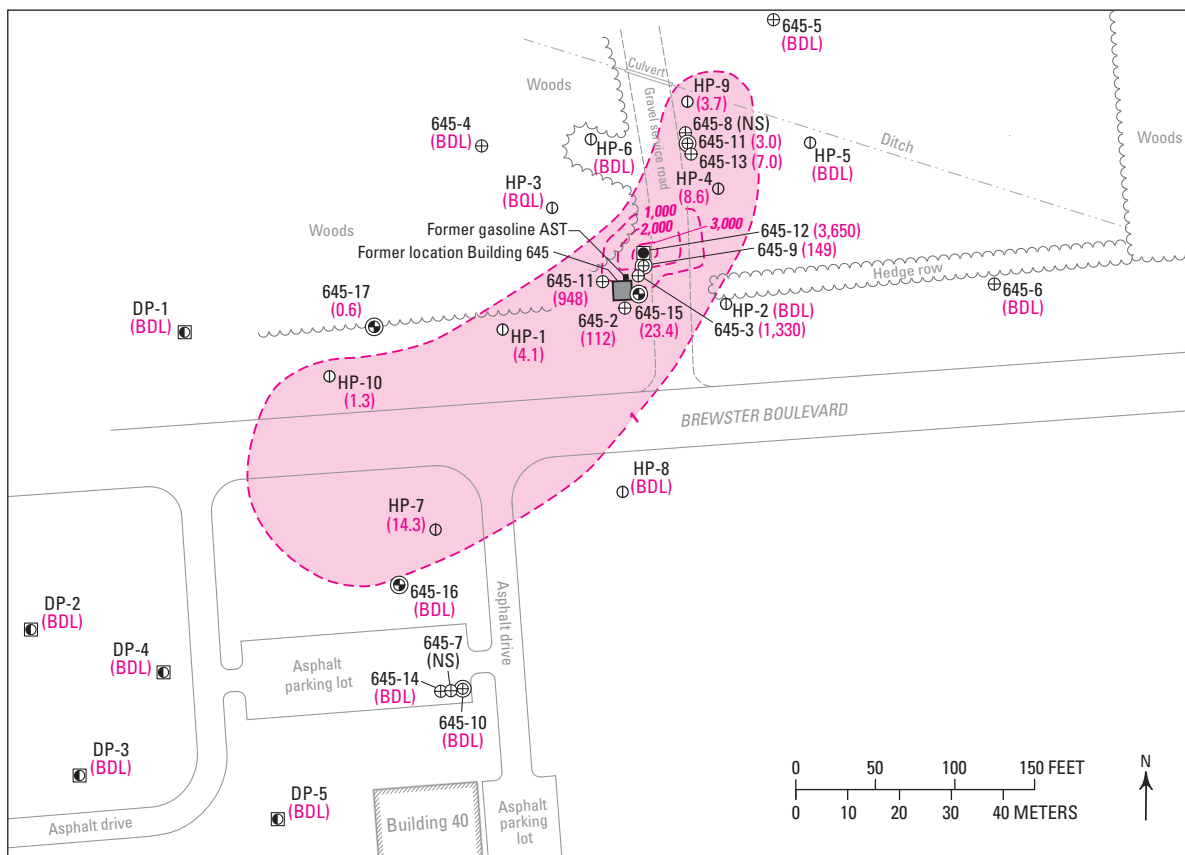
Existing	New	Site type
⊕		Shallow zone well (depth <40 feet)
⊕		Intermediate zone well (depth >40 to <60 feet)
⊕	⊕	Deep zone well (depth >60 to <90 feet)
⊕	⊕	Deep zone well (depth >90 feet)
■		Pumping well
()		Top of casing elevation, in feet (NGVD 88)

Figure D7. Monitor well locations at Underground Storage Tank Program Site Building 645, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Shaw Environmental, Inc. 2009a).

(Sovereign Consulting, Inc. 2006c, 2007ae, 2008b; Shaw Environmental, Inc. 2009a).

Although supply wells HP-643, HP-644, HP-646, and HP-647 are located in relatively close proximity to supply well HP-645 and are screened in much the same geohydrologic units, as of December 2001, no BTEX component

concentration greater than detection limits was determined in any of these wells (Faye et al. 2010, Table C10). Concentrations of PCE, TCE, and related degradation products were also determined in many samples collected from monitor wells at the UST Building 645 site. All concentrations of these constituents were at less than detection limits (Table D5).



EXPLANATION			NOTES:
Existing	New	Site type	
⊕		Type II well	1. Groundwater samples HP-1 through HP-10, 645-1 through 645-14 were collected during the RC&A December 1994 CSA investigation. Samples 645-15 through 645-17 were collected during the RC&A March 1996 CAP.
⊕	⊕	Type III well	
⊕		Hydropunch	
⊕	⊕	Pumping well	
	⊕	DPT boring	2. Type III wells not considered in contouring.
()		Benzene concentration, in µg/L; BDL, below detection limit; BQL, below quantitation limit; NS, not sampled	

Figure D8. Monitor well, direct push, and hydropunch locations and benzene plume at Underground Storage Tank Program Site Building 645, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Richard Catlin and Associates, Inc. 1996b).

UST Site Building 820—Berkley Manor Exchange

Building 820 and related facilities, including a vehicle service station, serve as the local Berkley Manor Exchange. The exchange is located immediately west of Stone Street and the Watkins Village housing area (Faye et al. 2010, Plate 1) (Figures D3, D9). Four fiberglass USTs (820-1, 820-2, 820-3, and 820-4; Table D2) were installed at the Berkley Manor Exchange during 1984. The capacity of each tank was 10,000 gal. Tanks 820-2 and 820-4 and/or related connecting lines failed a leak test during 1990 (Law Engineering, Inc. 1995a). When BTEX components were first leaked to the surface and subsurface in the vicinity of Building 820 is unknown.

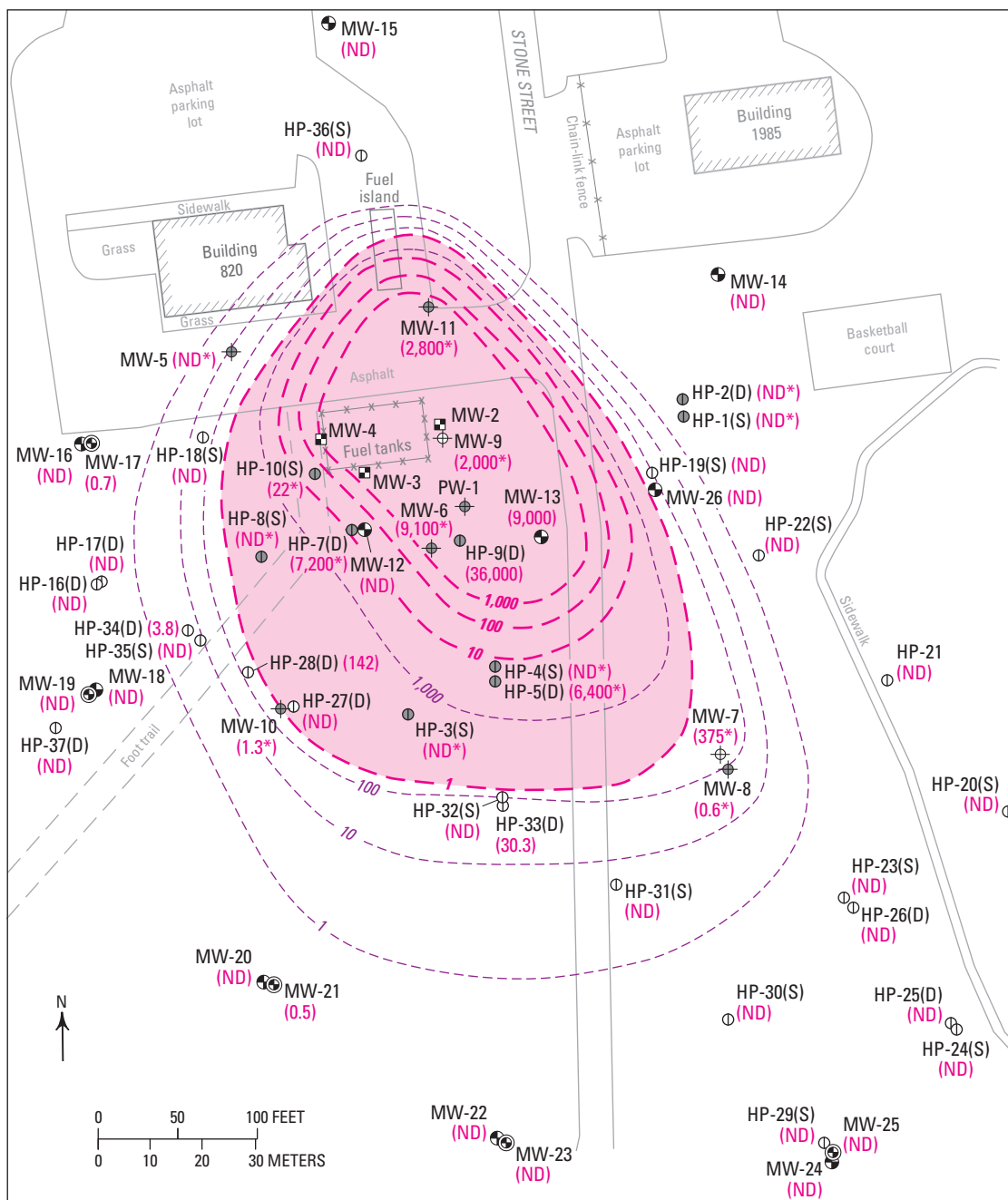
The leak test failures resulted in a UST site check during 1991 that was focused on UST 820-2. Four soil borings were advanced in the immediate vicinity of UST 820-2; however, one boring was abandoned at a depth of about 4 ft after severing a connecting line. This incident possibly added an unknown volume of BTEX to the surrounding soil and groundwater. One soil sample was collected from each boring site and submitted for total petroleum hydrocarbon (TPH) analysis. Three of the soil borings were converted to monitor wells open to the Brewster Boulevard aquifer system (Bldg820_MW02–Bldg820_MW04; Table D6), and a groundwater sample was collected from each well. One soil sample was also collected from each of the completed borings between 13 and 15 ft bgs and submitted for TPH analysis. Concentrations of TPH ranged from 1.1 micrograms per kilogram ($\mu\text{g}/\text{Kg}$) in the sample from Bldg820_MW04 to 1,000 $\mu\text{g}/\text{Kg}$ in the sample from Bldg820_MW03.

During August 1991, concentrations of BTEX components greater than detection limits in the monitor wells ranged from 1,100 $\mu\text{g}/\text{L}$ of ethylbenzene in well Bldg820_MW04 to 42,000 $\mu\text{g}/\text{L}$ of toluene in well Bldg820_MW02 (Table D4). Also, at this time, 0.2 ft of free-phase hydrocarbon product was measured in monitor well Bldg820_MW02 (Figure D9) (Law Engineering, Inc. 1995ac). During December 1992, six hydropunch samples were collected at various locations near the water table, and four were collected at least 20 ft below the water table (Table D4). The shallow samples were collected from the Brewster Boulevard aquifer system; the deep samples were collected from the Tarawa Terrace aquifer (Table D7). Substantial concentrations of BTEX components occurred in three deep samples at Bldg820_HP05, Bldg820_HP07, and Bldg820_HP09, all located south and southeast of the fuel storage tanks and Building 820. Concentrations of BTEX components at these locations ranged from 240 $\mu\text{g}/\text{L}$ to 36,000 $\mu\text{g}/\text{L}$ (Table D4).

Also during December 1992, seven additional monitor wells and an extraction well were installed; five open to the Brewster Boulevard aquifer system (Bldg820_MW05, Bldg820_MW06, Bldg820_MW08, Bldg820_MW10, and Bldg820_MW11) and two open to the Tarawa Terrace aquifer (Bldg820_MW07 and Bldg820_MW09). The extraction well

was also installed open to the Brewster Boulevard aquifer system (Bldg820_PW01) (Table D6). Concentrations of BTEX components greater than detection limits were measured in several of these wells. The greatest concentrations occurred in the Brewster Boulevard lower aquifer in monitor well Bldg820_MW006, ranging from 4,000 $\mu\text{g}/\text{L}$ to 27,000 $\mu\text{g}/\text{L}$. Well Bldg820_MW06 is located about 60 ft southeast of the USTs in the general direction of groundwater flow. Substantial concentrations of BTEX components also were detected in the Tarawa Terrace aquifer in well Bldg820_MW09, immediately east of the USTs, and ranged from 12 $\mu\text{g}/\text{L}$ to 2,000 $\mu\text{g}/\text{L}$ (Law Engineering, Inc. 1995c). Subsequent sampling in well Bldg820_MW09 indicated concentrations of toluene and benzene as high as 32,000 $\mu\text{g}/\text{L}$ and 8,500 $\mu\text{g}/\text{L}$, respectively (Table D4). BTEX concentrations in well Bldg820_MW09 had significantly decreased by March 2009. Similar declines were also noted in other Building 820 monitor wells including Bldg820_MW07, Bldg820_MW12, and Bldg820_MW28 (Table D4). Total BTEX concentration in the extraction well exceeded 157,000 $\mu\text{g}/\text{L}$ during December 1992.

Investigations of subsurface BTEX contamination in the vicinity of the Building 820 USTs continued during March 1994 when 22 additional hydropunch samples were obtained and analyzed. Twelve samples were collected at or near the water table between 15 and 22 ft bgs within the Brewster Boulevard lower aquifer (Bldg820_HP16–Bldg820_HP37; Figure D9; Tables D4, D7). Ten samples were collected within the Tarawa Terrace aquifer between 33 and 50 ft bgs. Concentrations of BTEX components determined in most samples were less than detection limits. Results of the hydropunch investigations were used to locate an additional 15 monitor wells, generally in the vicinity and south and east of the Building 820 USTs (Bldg820_MW12–Bldg820_MW26) (Figures D9–D10, Table D6). Of these, 5 were constructed open to the Tarawa Terrace aquifer, and 10 were open to the Brewster Boulevard aquifer system. Concentration data from the hydropunch samples and the existing and newly installed monitor wells were used to delineate an approximate benzene plume within the Brewster Boulevard aquifer system and the Tarawa Terrace aquifer in the vicinity of Building 820 (Figure D9). The plume, as shown, represents a composite of conditions between December 1992 and March and April 1994 (Table D4). Benzene concentrations are shown to exceed 1,000 $\mu\text{g}/\text{L}$ in the immediate vicinity of the Building 820 fuel island and the Building 820 USTs. The center of mass of the plume containing the greatest concentrations of benzene extends approximately 200 ft southeast of the Building 820 USTs. Concentrations greater than 100 $\mu\text{g}/\text{L}$ occurred within the Tarawa Terrace aquifer east of Stone Street within the southwesternmost part of the Berkley Manor housing area. The vertically downward migration of LNAPL BTEX components from the Brewster Boulevard aquifer system to the Tarawa Terrace aquifer probably represents advection along downward vertical hydraulic gradients caused by



EXPLANATION

<p> Approximate extent of benzene concentration in shallow groundwater</p> <p>Approximate line of equal benzene concentration—Intervals, in µg/L, vary</p> <p> 1 In shallow groundwater</p> <p> 1 In deeper groundwater</p>	<p>Existing</p> <p>⊕ Type II monitoring well</p> <p>⊕ Type III monitoring well</p> <p>⊙ Hydropunch—S, shallow; D, deep</p> <p>⊠ ATEC monitoring well</p>	<p>New</p> <p>⊕ Type II monitoring well</p> <p>⊕ Type III monitoring well</p> <p>⊙ Hydropunch—S, shallow; D, deep</p> <p>() Benzene concentration in groundwater, in µg/L; ND, not detected; *, results of previous investigation during April 1993</p>
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Figure D9. Monitor well and hydropunch locations and benzene plume at Underground Storage Tank Program Site Building 820, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Law Engineering, Inc. 1995a).

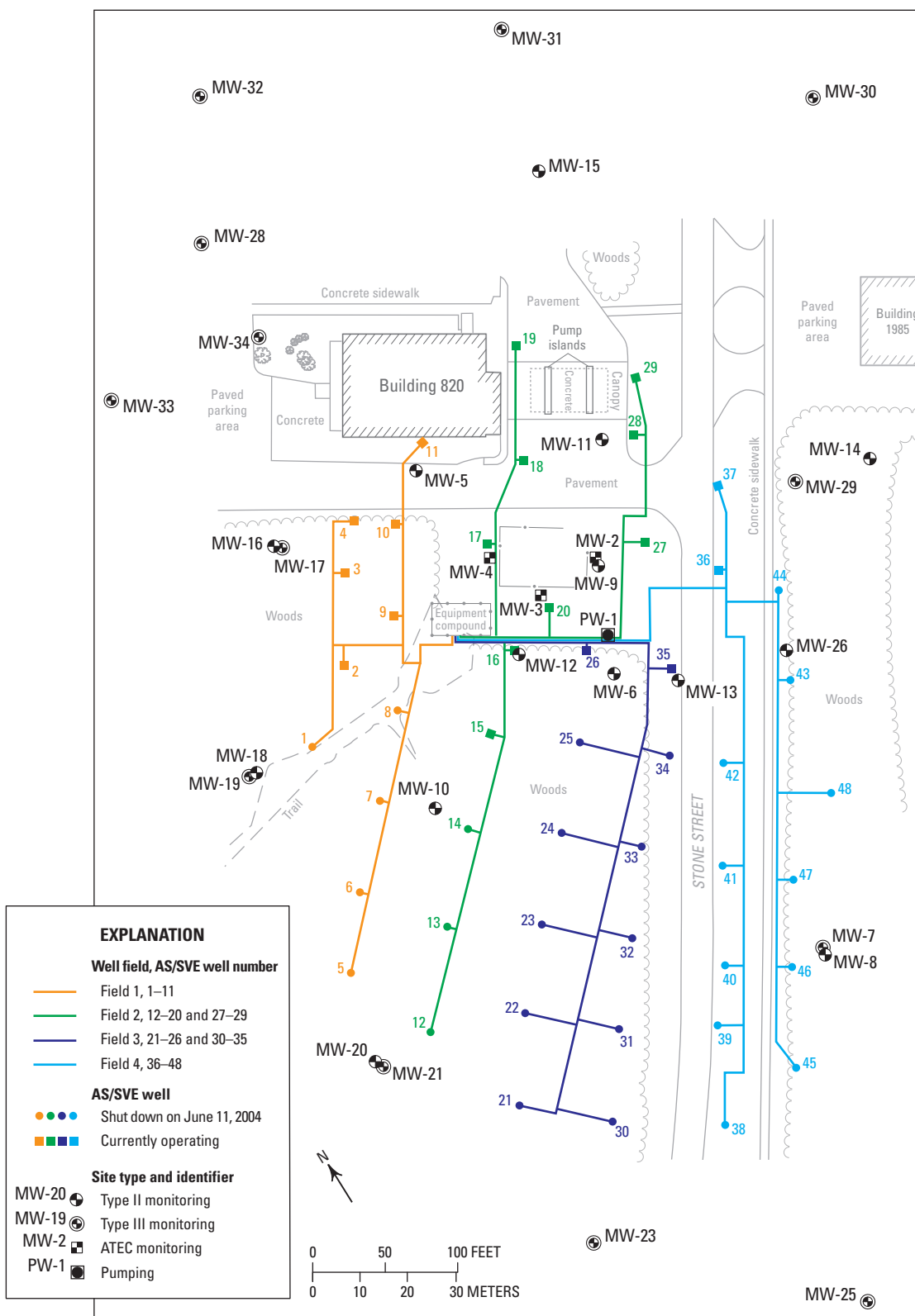


Figure D10. Monitor well locations and AS/SVE network at Underground Storage Tank Program Site Building 820, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Shaw Environmental, Inc. 2008a).

pumping at nearby supply wells, most notably HP-607 (new), HP-622, and HP-623 (Faye et al. 2010, Plate 1). From the center of mass of the benzene plume shown in Figure D9, the approximate radial distances to supply wells HP-607 (new), HP-622, and HP-623 are 3,600 ft, 3,500 ft, and 1,400 ft, respectively. As of December 2001, no BTEX component concentration greater than detection limits had been determined in any of these wells (Faye et al. 2010).

Additional monitor wells were constructed in the vicinity of Building 820 between 2001 and 2006, generally along the northern and eastern perimeters of the site. Well Bldg820_MW27 was constructed during September 2001 open to the Brewster Boulevard aquifer system. Wells Bldg820_MW28–Bldg820_MW34 were constructed during April 2005–January 2006 open to either the Tarawa Terrace aquifer (Bldg820_MW27–Bldg820_MW33) or the Upper Castle Hayne aquifer–River Bend unit (Bldg820_MW34) (Table D6). With the exception of well Bldg820_MW28, concentrations of BTEX components in these wells were small or below detection limits. Benzene concentrations in well Bldg820_MW28 ranged between 1.7 µg/L and 1,130 µg/L during the period of record, May 2005–March 2009 (Table D4).

Thicknesses of free-phase hydrocarbon product were also measured periodically between August 1991 and April 1994. The maximum detected free-phase thickness of about 2.4 ft was measured during December 1992 in monitor well Bldg820_MW03, located immediately south of the Building 820 USTs. This thickness had declined to 0.04 ft by April 1994. Free-phase thickness of hydrocarbon product in other wells ranged from 0.04 to 0.56 ft (Law Engineering, Inc. 1995ac). About 52 gal of free-phase hydrocarbon product were removed from Building 820 monitor wells between 1994 and August 1997, probably by skimming and bailing (Geophex, Ltd. 1997).

Remediation of groundwater contamination by BTEX components in the vicinity of Building 820 began during October 1997, following construction of several networks of AS/SVE wells. More than 15,000 pounds of hydrocarbon compounds were discharged from AS/SVE networks by the end of December 2001 (OHM Remediation Services Corp. 2002b), and more than 25,000 pounds were recovered by April 2009 (Shaw Environmental, Inc. 2009b). Groundwater monitoring and sample collection from most monitor wells began during August 1997 in conjunction with the construction and initial operation of the remediation networks and continues in selected wells to the present day (2012) (OHM Remediation Services Corp. 2000d, 2001b, 2002b; Shaw Environmental, Inc. 2002, 2004a, 2005bd, 2006b, 2007b, 2008a, 2009b; Catlin Engineers and Scientists 2004b, 2006ac). Concentrations of PCE, TCE, and related degradation products were also determined in many samples collected from monitor wells at the UST Building 820 site. All concentrations of these constituents were determined to be less than detection limits (Table D5).

UST Site Building 900

Building 900 is located near the northeast corner of the HPIA, south of the intersection of Holcomb Boulevard and Sneads Ferry Road (Faye et al. 2010, Plate 1). Building 900 was constructed during 1948 and previously served as an administrative office, a dispensary, and chaplain's office (Environmental Science and Engineering, Inc. 1988). The Building 900 UST was installed during 1972 (Law Engineering and Environmental Services, Inc. 1997d). The area of UST Site Building 900 is part of a CERCLA (IRP) investigation of the entire HPIA (Faye et al. 2010, IR Site 78) and is near the center of an area of major groundwater contamination by chlorinated alkene solvents, mostly composed of TCE and related degradation products (Faye et al. 2010, Figure C16). A network of 12 recovery wells constructed open to the Brewster Boulevard lower aquifer and designated as the north VOC extraction network (RW01N–RW12N) was installed near UST Site Building 900 by the IRP during 1994 to remediate this contamination (Faye et al. 2010, Figures C15, C17, Table C52).

RCRA investigations of groundwater contamination at UST Site Building 900 probably began in 1996, following removal of a UST from the northwest side of the building and the discovery of BTEX contamination in soils within the excavation pit (Geosciences, Inc. 1995c). Groundwater contamination was confirmed during a site check in 1995 when BTEX contamination was discovered within the Brewster Boulevard upper aquifer in four temporary monitor wells constructed in and within the excavation pit (wells Bldg900_P-1 to Bldg900_P-4; Table D6). Concentrations of BTEX components greater than detection limits in these wells ranged from 120 µg/L of benzene to 21,000 µg/L of toluene (Table D4) (R.E. Wright Environmental, Inc. 1996). A major site assessment during 1996 resulted in the construction of seven monitor wells all open to the Brewster Boulevard upper aquifer and additional data collection at several geoprobe and hydropunch locations. By August 1996, sufficient groundwater contaminant data were collected in the vicinity of UST Site Building 900 to delineate plumes of all BTEX components at the site. These data included the results of frequent sample collection and analysis at IRP monitor wells IRP78_GW22A and IRP78_GW23, as part of RCRA groundwater investigations at UST Site Building 900 (Tables D4–D5) (Faye et al. 2010, Tables C52–C54).

Figure D11 shows the approximate limits of the benzene plume during August 1996 along with geoprobe and hydropunch data collection locations (Bldg900_GP01–Bldg900_GP16 and Bldg900_HP01–Bldg900_HP05) and locations of monitor wells Bldg900_MW01–Bldg900_MW07. The center of mass of the plume is located directly west of and nearly adjacent to Building 900. Benzene concentrations within the plume's center of mass exceeded 1,000 µg/L. The plume extends to the north toward Building 901, probably influenced by pumping at the north VOC extraction

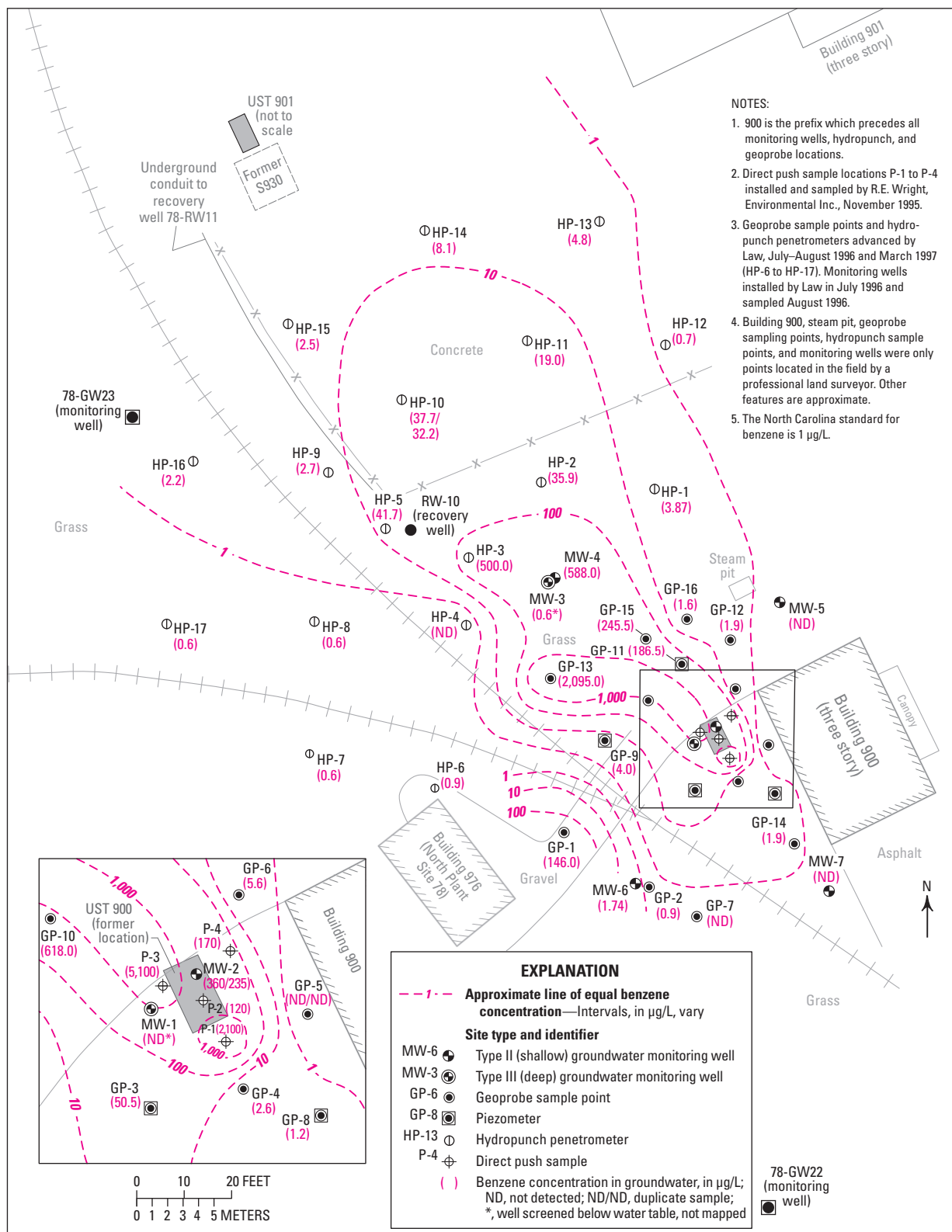
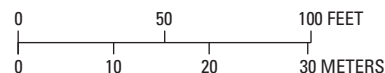


Figure D11. Monitor well and hydropunch locations and benzene plume at Underground Storage Tank Program Site Building 900, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Law Engineering and Environmental Services, Inc. 1997d).



network. Similar plume configurations were noted for toluene, ethylbenzene, and xylenes (Law Engineering and Environmental Services, Inc. 1997d). Plume migration was possibly also influenced by pumping at nearby supply well HP-634, located at a radial distance of approximately 600 ft northeast from the center of mass. Such pumping possibly also contributed to the mixing of the plumes of BTEX components with a plume or plumes of degradation products of PCE or TCE located north and northwest of the former location of Building 900 (Faye et al. 2010, Figure C16). Concentrations of *cis*-1,2-dichloroethylene (*cis*-1,2-DCE) greater than detection limits occurred relatively frequently in monitor wells Bldg900_MW09–Bldg900_MW10 during much of 2005–2006, coincident in time with BTEX components. Concentrations ranged from an estimated 0.54 µg/L in monitor well Bldg900_MW08 to about 2.1 µg/L in well Bldg900_MW10. The center of mass of the chlorinated alkenes is probably at or near IRP monitor well IRP78_GW23, where mixing of TCE and related degradation products with BTEX components was noted as early as January 1991 and continued until at least March 2007. At various times, total concentrations of the chlorinated alkenes exceeded 15,000 µg/L at this location (Figure D11, Tables D4–D5) (Faye et al. 2010, Figure C16).

Completion of a corrective action plan for UST Site Building 900 resulted in a pilot AS test conducted during July 1997. Monitor well Bldg900_MW08 was constructed as part of this test (Figures D11–D12, Table D6). Results of the pilot test were considered sufficiently successful for the corrective action plan to recommend an AS/SVE approach to remediate BTEX contamination of groundwater at UST Site Building 900 (Law Engineering and Environmental Services, Inc. 1998a). The AS/SVE network was probably constructed during 1999 and consisted of four AS and four SVE wells. The AS wells were constructed open to the Brewster Boulevard upper aquifer. The AS/SVE network began operation during July 1999 and, except for short periods of routine maintenance, repair, and sampling, was operated continuously until it was permanently shut down in June 2004. Data indicating the mass of hydrocarbons removed during operation of the AS/SVE were not published. A revised corrective action plan, which recommended that no further remedial actions be undertaken, was completed by February 2004. Other recommendations included implementing routine quarterly monitoring and sampling in selected wells for an undetermined period (Catlin Engineers and Scientists 2004c). Additional monitor wells Bldg900_MW09 and Bldg900_MW10 were constructed during June 2000 (Engineering and Environment, Inc. 2006b). Monitor well locations are shown in Figure D12. Results of periodic monitoring following the shutdown of the AS/SVE network are published in Engineering and Environment, Inc. (2006b) and Sovereign Consulting, Inc. (2006d, 2007b) and are listed in Table D4. With the exception of BTEX concentrations in monitor well Bldg900_MW09, BTEX concentrations in Building 900 monitor wells generally declined or were less than detection limits between 2004 and 2007.

Benzene concentrations greater than detection limits in well Bldg900_MW09 ranged between about 16 µg/L and 150 µg/L during this period, with the highest concentration occurring in January 2007 (Table D4). Free-phase hydrocarbon product was not observed in any monitor well during the period of record. However, concentrations of TCE and TCE degradation products were observed infrequently in several monitor wells, indicating at least a partial mixing of plumes of BTEX and chlorinated alkenes in the vicinity of UST Site Building 900 (Tables D4–D5). A TCE concentration of about 145 µg/L was detected in monitor well Bldg900_MW01 during October 2004. The same sample contained 57 µg/L of *cis*-1,2-DCE. Other concentrations of TCE and TCE degradation products observed in Bldg900 monitor wells were typically small between 2003 and 2007, and most occurred below detection limits. An estimated concentration of about 0.23 µg/L of vinyl chloride occurred in well Bldg900_MW09 during January 2007, indicating completion of some TCE degradation pathways at the Building 900 UST site.

Downward vertical migration of BTEX components was not apparent at UST Site Building 900 because no monitor wells were constructed open below the Brewster Boulevard aquifer system (Table D6). However, concentrations of BTEX components greater than detection limits were observed during 1987–2004 in IRP monitor wells IRP78_GW24-2 and IRP78_GW24-3, located approximately 600 ft northwest of the center of mass of the benzene plume shown in Figure D11. Monitor well IRP78_GW24-2 is open to the Tarawa Terrace aquifer between 57 and 77 ft bgs. Well IRP78_GW24-3 is open to the Upper Castle Hayne aquifer–River Bend unit between 128 and 148 ft bgs. Concentrations of most BTEX components were detected in well IRP78_GW24-3 during April 1996, ranging from 3.5 µg/L of ethylbenzene to 15 µg/L of toluene. The benzene concentration was 4.8 µg/L. Benzene was detected once in well IRP78_GW24-3 during May 1993 at a concentration of 35 µg/L (Faye et al. 2010, Figure C15, Table C54). LNAPLs, such as benzene and toluene, occurring at such depths and distance from the probable source in the vicinity of Building 900 indicates induced vertically downward migration probably caused by pumping at nearby water-supply wells. The supply well nearest to UST Site Building 900 was HP-634, located approximately 600 ft northeast of the center of the benzene plume shown in Figure D11 (Faye et al. 2010, Plate 1). As of December 2001, no BTEX component concentration greater than detection limits had been determined in supply well HP-634; however, concentrations of chlorinated alkenes greater than detection limits were determined in this well during December 1984 and January 1985, ranging from an estimated 2.3 µg/L of *trans*-1,2-dichloroethylene (*trans*-1,2-DCE) to 1,300 µg/L of TCE (Faye et al. 2010, Table C7).

UST Site Building 1100/1115 Area

(See discussion for the Hadnot Point Fuel Farm area)

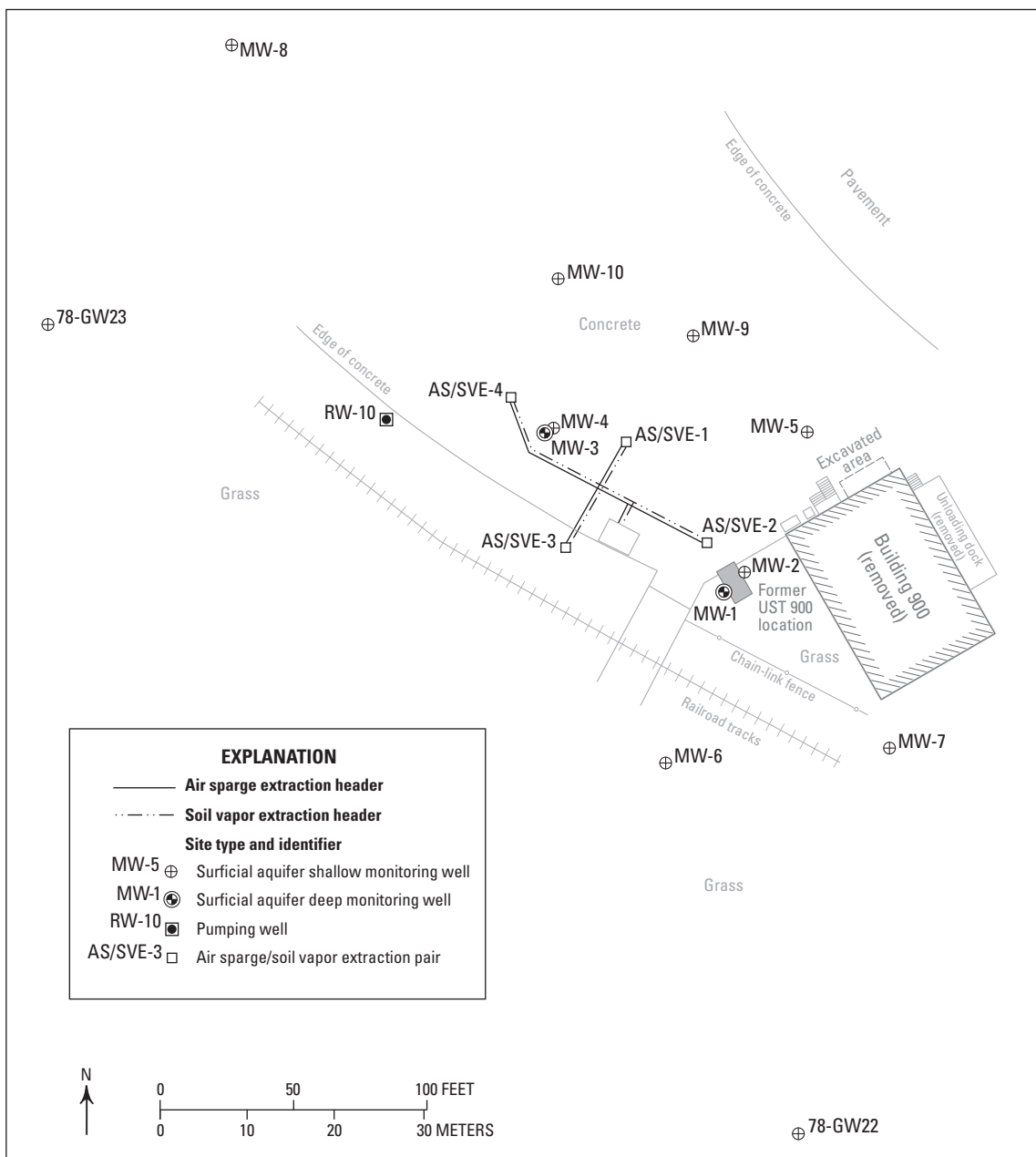


Figure D12. Monitor well locations and AS/SVE network at Underground Storage Tank Program Site Building 900, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Engineering and Environment, Inc. 2006b).

UST Site Building 1613

Groundwater contamination by BTEX components in the vicinity of Building 1613 during 1995 is summarized in Chapter C as part of the descriptions of site assessment and site characterization results at CERCLA (IRP) Site 94 (Faye et al. 2010, pages C61–C62, Tables C72–C76). Building 1613 serves as the base exchange service station. BTEX contamination in groundwater at and in the vicinity of UST Site Building 1613 was apparently the result of gasoline leakage from four USTs (Building 1613-1–1613-4, Table D2) or their associated piping and linkages buried at the fuel pump island of the service station (Geosciences, Inc. 1995e). The tanks were apparently installed during the 1950s and were removed during January 1995 (Geosciences, Inc. 1995e;

Richard Catlin and Associates, Inc. 1996a). Total capacity of the four USTs was 79,000 gal (Table D2).

Data summarized herein include additional construction data for monitor wells Bldg1613_MW17–Bldg1613_MW22 and selected analytical results of samples collected in Building 1613 monitor wells (Tables D4, D6). Each newly constructed well was screened open to the Brewster Boulevard aquifer system. Locations of all monitor wells and hydropunch data collection locations, as well as the locations of several IRP Site 78 monitor wells, are shown in Figure D13. Samples were collected in IRP monitor wells IRP78_GW05–IRP78_GW07 and were subsequently analyzed as part of RCRA groundwater investigations at UST Site Building 1613. Results are summarized herein in Tables D4 and D5.

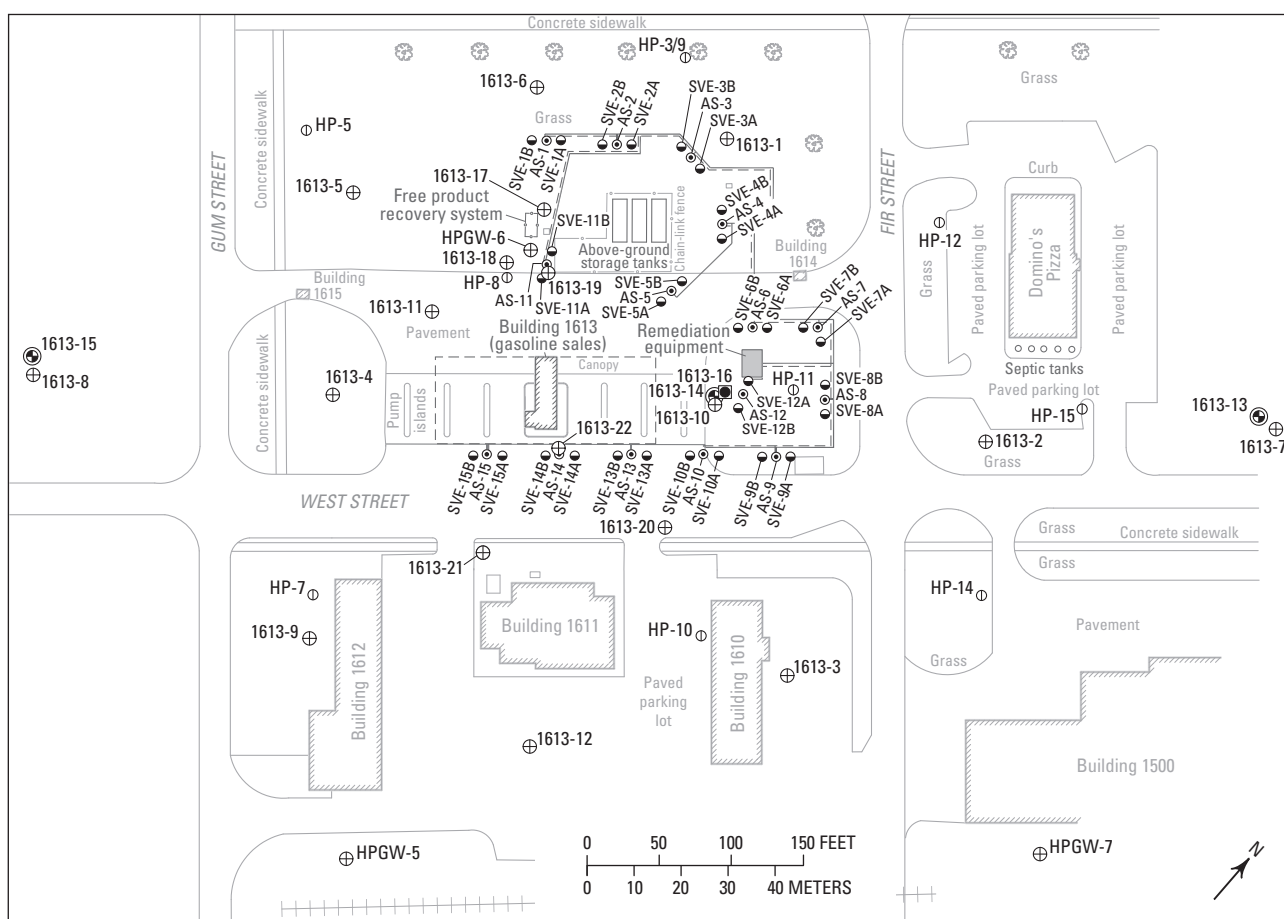


Figure D13. Monitor well and hydropunch locations at Underground Storage Tank Program Site Building 1613, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Sovereign Consulting, Inc. 2008c).

EXPLANATION	
---	Air sparge system
---	SVE system
Site type and identifier	
1613-9 ⊕	Type II well
1613-14 ⊙	Type III well
1613-16 ⊕	Pumping well
HP-7 ⊕	Hydropunch
AS-5 ⊕	Soil vapor extraction well
SVE-5A ⊕	Air sparge well

NOTES:

1. AS-built remediation system layout adapted from data provided by Shaw Environmental, Inc.
2. Air sparge well AS-11 to AS-13 locations are approximate.
3. Soil vapor extraction well SVE-11 to SVE-13 locations are approximate.

Completion of a corrective action plan resulted in several recommendations to remediate contamination of groundwater in the vicinity of UST Site Building 1613, including installation of (1) an AFVR system for removal of free-phase hydrocarbon product and (2) a network of AS/SVE wells. Free-phase product was previously detected in well IRP78_GW06 (well HPGW-6 in Figure D13), and approximately 340 gal of product was extracted from this well between 1994 and August 1997 (Richard Catlin and Associates, Inc. 1996a; Geophex, Ltd. 1997). Subsequently, no free-phase product was detected in well IRP78-GW06 or in nearby wells Bldg1613_GW17 or Bldg1613_GW18, and the AFVR system was not installed (OHM Remediation Services Corp. 2000a). During 1998, the AS/SVE system was constructed, however, and consisted of 10 AS wells and 20 SVE wells. Two SVE wells were constructed adjacent to each AS well. Additional groundwater assessments completed in September 2000 indicated several areas of groundwater contamination within the Building 1613 area that were not influenced by the remediation network, and five additional AS/SVE well pairs were subsequently installed and added to the AS/SVE network. The AS/SVE network began operation during November 1998, and, except for minor equipment repairs and routine maintenance, was operated continuously until May 2004 when the system was shut down. Approximately 37,000 pounds of hydrocarbon mass was removed by the AS/SVE system during its period of operation (OHM Remediation Services Corp. 2000c, 2001d, 2002c; Shaw Environmental, Inc. 2003a). Following termination of AS/SVE operations, routine monitoring of groundwater conditions in selected monitor wells was initiated on a quarterly basis, per recommendations of a revised corrective action plan (Catlin Engineers and Scientists 2004d). Results of periodic monitoring following the shutdown of the AS/SVE network are published in Shaw Environmental, Inc. (2005c), Sovereign Consulting, Inc. (2006e, 2008c), and Catlin Engineers and Scientists (2009b) (Tables D4–D5).

Groundwater contamination by BTEX components at UST Site Building 1613 is summarized in Table D4 and includes the earliest data collected by IRP investigations during March–May 1995. These data are also summarized in (Faye et al. 2010, Tables C72, C75). The highest BTEX concentrations for the period of record occurred during April 1995 in the vicinity of hydropunch location Bldg1613_HP08; concentrations ranged from 2,140 µg/L of ethylbenzene to 20,700 µg/L of toluene. The benzene concentration was 17,300 µg/L. Hydropunch location Bldg1613_HP08 is near monitor well IRP78_GW06, where free-phase hydrocarbon product previously was observed. High concentrations of BTEX components also occurred at the locations of hydropunch Bldg1613_HP11 and nearby monitor well Bldg1613_MW10, just east of the fuel pump island (Figure D13). The benzene concentration at the hydropunch location was 7,700 µg/L.

Analyses of groundwater samples collected in monitor wells during September 2000 were used to delineate plumes of individual BTEX components within the UST Site Building 1613 area. The approximate benzene plume constructed from these data is shown in Figure D14. The center of mass of the plume at this time was centered generally on monitor well Bldg1613_MW22 and south of the previously determined BTEX mass. The benzene concentration at well Bldg1613_MW22 was 5,160 µg/L. The concentration in monitor well IRP78_GW06, where high concentrations were observed during 1995, was 170 µg/L. A second, much smaller and somewhat questionable, BTEX mass was also detected during September 2000 west of the pump island, where high concentrations of BTEX components were observed during 1995 (OHM Remediation Services Corp. 2000a). Some redistribution of contaminants had occurred, likely caused by operation of the AS/SVE system, which began in November 1998. Analyses of groundwater samples collected in selected monitor wells after September 2000 generally indicated that concentrations of BTEX components were small or occurred below detection limits, with exceptions being samples collected in wells near and somewhat north of the fuel pump island, such as wells Bldg1613_MW10, Bldg1613_MW17, and Bldg1613_MW22 (Table D4). Benzene concentrations greater than detection limits in wells Bldg1613_MW17 and Bldg1613_MW22 were 204 µg/L and 6.0 µg/L, respectively, as late as April 2008 (Table D4).

Concentrations of TCE and related degradation products were also detected in several monitor wells at UST Site Building 1613 (Table D5). PCE and vinyl chloride concentrations were not determined at greater than detection limits in any monitor well. TCE concentrations were greatest in those wells adjacent to the eastern end of the pump island, including monitor wells Bldg1613_MW10, Bldg1613_MW14, and Bldg1613_MW16, and ranged from about 14 µg/L in monitor well Bldg1613_MW10 to about 86 µg/L in well Bldg1613_MW16 (Table D5). TCE concentrations greater than detection limits also occurred in monitor wells Bldg1613_MW13 and Bldg1613_MW15, east and west of the pump island, respectively. At these locations, TCE concentrations ranged from 54 µg/L in well Bldg1613_MW13 to about 4 µg/L in well Bldg1613_MW15. Where the analytical record is longest, at well Bldg1613_MW15, concentrations of TCE and related degradation products appear to increase between 1995 and 2004 and to decline between 2004 and 2007. Degradation products *trans*-1,2-DCE and *cis*-1,2-DCE occurred most frequently in monitor wells in conjunction with TCE. The extremes of *trans*-1,2-DCE concentrations occurred in a single well, Bldg1613_MW15, and ranged from about 0.2 to 38 µg/L. Concentrations of *cis*-1,2-DCE greater than detection limits ranged from about 0.6 µg/L in well Bldg1613_MW13 to about 37 µg/L in well Bldg1613_MW15. A single observation of 1,1-dichloroethylene (1,1-DCE) was detected in well Bldg1613_MW14 at a concentration of

0.7 µg/L. The occurrences of TCE and related degradation products in Building 1613 monitor wells indicate mixing of one or more nearby plumes of chlorinated alkenes with similar plumes of BTEX components. Mixing was first noted during the analysis of groundwater samples collected during March and April 1995 at hydropunch locations Bldg1613_HP01 and Bldg1613_HP10 and was further noted sporadically in groundwater samples from monitor well Bldg1613_MW10 during December 2001 and June 2004. Mixing of plumes of BTEX and chlorinated alkenes is also apparent in samples collected from monitor well Bldg1613_MW09 and Bldg1613_MW16; however, sample collections were not coincident in time at these locations (Tables D4, D5).

Downward vertical migration of BTEX components was not apparent in the immediate vicinity of UST Site Building 1613 because no monitor wells were constructed below the Brewster Boulevard aquifer system during site

investigations (Table D6). However, concentrations of BTEX components were observed during 1993–1998 in IRP monitor wells IRP78_GW09-2 and IRP78_GW09-3, located approximately 900 ft and 1,000 ft south of the center of mass of the benzene plume shown in Figure D14. Monitor well IRP78_GW09-2 is open to the Tarawa Terrace aquifer between 55 and 75 ft bgs. Well IRP78_GW09-3 is open to the Upper Castle Hayne aquifer–River Bend unit between 130 and 150 ft bgs. The BTEX contamination of groundwater at UST Site Building 1613 is considered a likely source of BTEX components in these monitor wells. Concentrations of BTEX components detected in well IRP78_GW09-2 ranged from an estimated 0.7 µg/L of toluene to 6 µg/L of benzene (Faye et al. 2010, Figure C15, Tables C52, C54). Toluene was detected in IRP well 78-GW09-3 at a concentration of 1.6 µg/L (Faye et al. 2010, Figure C15, Tables C52, C54). The occurrence of LNAPLs such as benzene and toluene at such depths

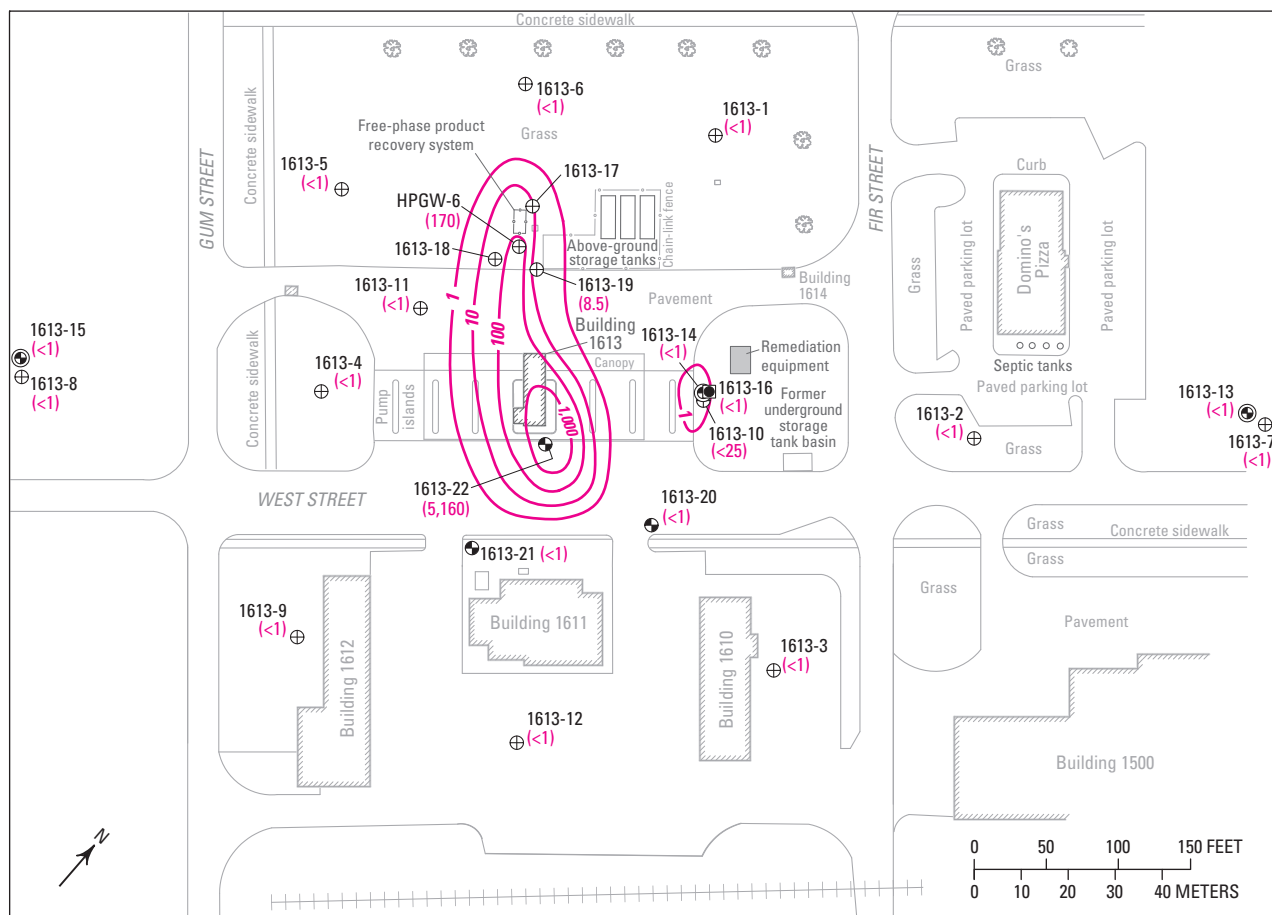


Figure D14. Monitor well locations and benzene plume at Underground Storage Tank Program Site Building 1613, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from OHM Remediation Services Corp. 2000a).

EXPLANATION

— 10 — Line of equal benzene concentration—Interval, in micrograms per liter (µg/L), varies

Existing	New	Site type
⊕	⊕	Type II well
⊕	⊕	Type III well
⊕	⊕	Pumping well
()		Benzene concentration in groundwater, in µg/L

and distances from the probable source indicates induced vertically downward migration, probably caused by pumping at nearby water-supply wells. Supply wells most proximate to UST Site Building 1613 were HP-603 and HP-608, located approximately 500 ft and 1,600 ft, respectively, from the center of mass of the benzene plume shown in Figure D14 (Faye et al. 2010, Plate 1). As of September 1995, no BTEX component concentration greater than detection limits had been determined in supply well HP-603; however, small concentrations of chlorinated alkenes greater than detection limits were determined in this well during December 1984 (an estimated 4.6 µg/L of TCE) and September 1995 (2.4 µg/L of *cis*-1,2-DCE; Faye et al. 2010, Table C7). In supply well HP-608, concentrations of benzene were detected on two occasions during December 1984 ranging from an estimated 3.7 µg/L to an estimated 4.0 µg/L (Faye et al. 2010, Table C8). Between December 1984 and November 1986, concentrations of TCE and *trans*-1,2-DCE were detected in several samples collected from well HP-608 ranging, respectively, from 9.0 µg/L to 110 µg/L and from an estimated 2.4 µg/L to 8.5 µg/L (Faye et al. 2010, Table C7). Supply well HP-608 was constructed open to the Tarawa Terrace aquifer and Upper Castle Hayne aquifer system between 62 ft and 162 ft bgs (Faye et al. 2010, Table C4).

UST Site Building FC251

Building FC251 is located immediately south of McHugh Boulevard and about a quarter mile (1,300 ft) west of the intersection of McHugh and Gonzales Boulevards (Faye et al. 2010, Plate 1). Building FC251 was used as an equipment maintenance facility and included an auxiliary power generator, several USTs, and a washrack facility (Figure D15). The USTs FC251-2 and FC251-3 were installed in 1979 or 1980. The installation date of UST FC251-1 is unknown. Capacity of each tank was 5,000 gal. Tank 1 contained waste oil. Tanks 2 and 3 contained diesel fuel and gasoline, respectively (Table D2). The three USTs were removed during March 1994. Soil contamination by TPH at the “former UST basin” was noted in samples collected in the excavation during removal of USTs FC251-2 and FC251-3, located near the southwest corner of Building FC251 (Figure D15) (Eastern Environmental, Inc. 1994a; Richard Catlin and Associates, Inc. 1996d). The total quantity of fuel released to the subsurface is unknown.

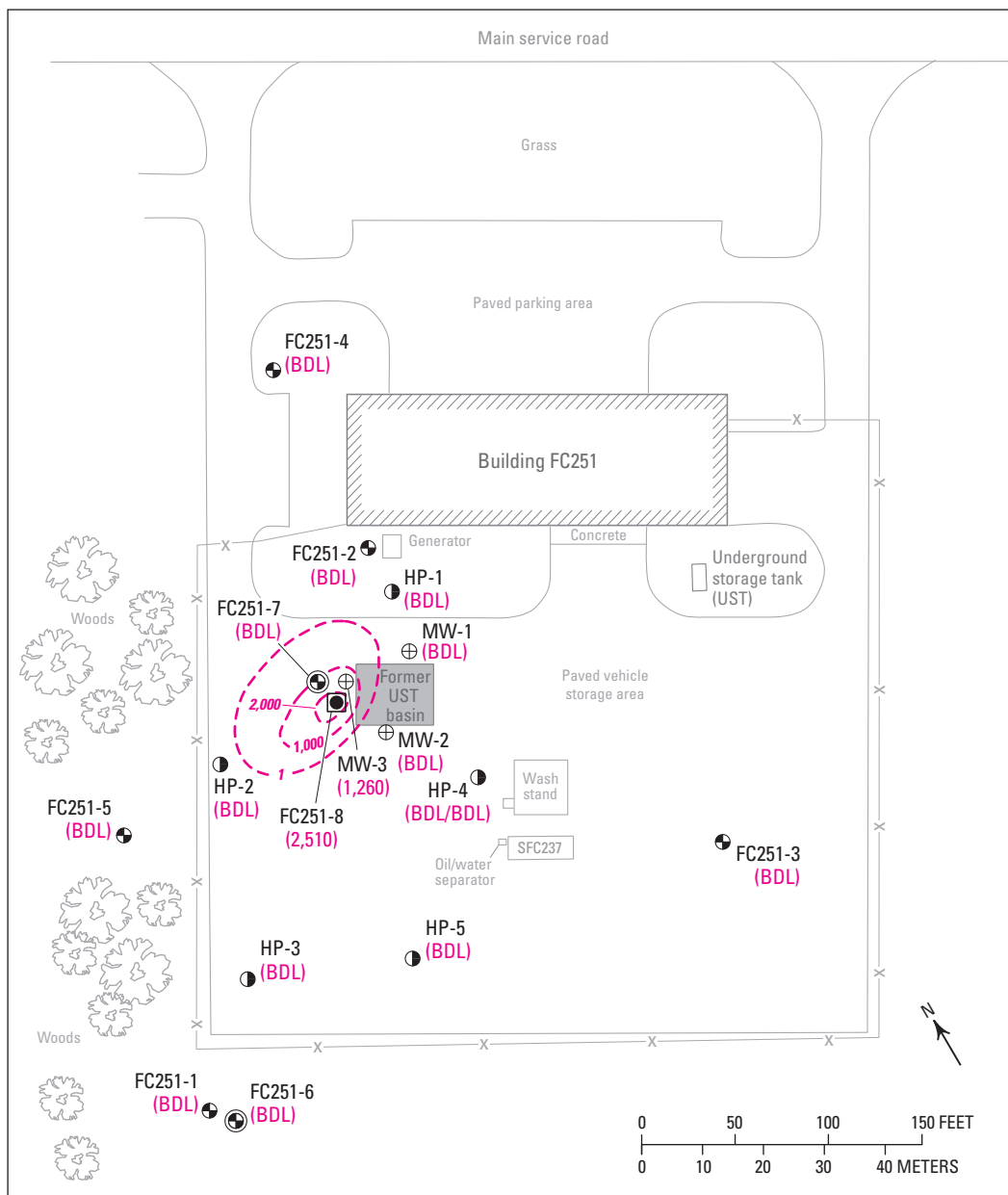
Investigations of groundwater contamination at UST Site Building FC251 began during August 1994 when three monitor wells were installed open to the Brewster Boulevard upper aquifer [wells BldgFC251_MW01 (old)–BldgFC251_MW03 (old)] (Table D6). Groundwater contamination by all BTEX components was detected only in well BldgFC251_MW03 (old), located on the west side of the former UST basin. Contaminant concentrations ranged from 1,000 µg/L of ethylbenzene to 3,600 µg/L of xylenes. The benzene concentration was 2,000 µg/L (R.E. Wright Associates, Inc. 1994k) (Table D4).

A subsequent site assessment conducted during April and May 1995 resulted in the construction of eight additional observation wells [BldgFC251_MW01 (new)–BldgFC251_MW03 (new), and BldgFC251_MW04–BldgFC251_MW08], all screened within the Brewster Boulevard aquifer system, and data collection at five hydropunch locations BldgFC251_HP01–BldgFC251_HP05), all within the Brewster Boulevard upper aquifer (Tables D6–D7) (Richard Catlin and Associates, Inc. 1996d). The site assessment confirmed the occurrence of high concentrations of BTEX components near the western edge of the UST pad, and data were sufficient to delineate small plumes of BTEX components in that vicinity (Figure D15). In April 1995, concentrations of BTEX components detected in monitor well BldgFC251_MW03 (old) ranged from 944 µg/L of ethylbenzene to 3,790 µg/L of xylenes. The benzene concentration was 1,260 µg/L. At nearby well BldgFC251_MW08, concentrations of BTEX components greater than detection limits ranged from 442 µg/L of ethylbenzene to 4,030 µg/L of toluene (Table D4). The benzene concentration was 2,510 µg/L (Table D4) (Richard Catlin and Associates, Inc. 1996d).

Following completion of the site assessment, a corrective action plan recommended excavation and removal of unsaturated, petroleum-contaminated soil and remediation of groundwater contamination via natural attenuation. Subsequent sampling and monitoring of BTEX contaminants in selected wells occurred during 1997 and 1998. BTEX components were detected only in monitor well BldgFC251_MW03 (old) and ranged in concentration from 23 µg/L of ethylbenzene during May 1997 to 4,900 µg/L of total xylenes during May 1998. The maximum concentration of benzene of 630 µg/L was detected during May 1998 (Table D4) (J.A. Jones Environmental Services Company 1998). All monitor wells were abandoned in August 1999, and additional monitoring for BTEX contaminants in groundwater at UST Site Building FC251 was subsequently terminated (J.A. Jones Environmental Services Company 1999d).

Downward vertical migration of BTEX components in groundwater to or below the Tarawa Terrace aquifer was not assessed at UST Site Building FC251 because monitor wells at the site were not constructed below the Brewster Boulevard lower aquifer. Water-supply wells HP-625 and HP-655 (Figure D5) were located approximately 1,000 ft from the center of mass of the benzene plume shown in Figure D15. Operation of these wells over an extended period possibly facilitated downward vertical migration of BTEX components. However, the analysis of a water sample collected from supply well HP-655 during January 1985 indicated no occurrences of BTEX components greater than detection limits (Faye et al. 2010, Table C8).

Small concentrations of 1,1-DCE were detected during April 1995 in the Brewster Boulevard upper aquifer at hydropunch locations BldgFC251_HP04 and BldgFC251_HP05. Concentrations were 0.7 and 0.8 µg/L, respectively, indicating a possible PCE or TCE source in the vicinity of UST Site Building FC251 (Table D5).



EXPLANATION

- 1 **---** Approximate line of equal benzene concentration—
Interval, in micrograms per liter (µg/L), varies
- Existing** **New** **Site type**
- ⊕ ⊕ Type II well
- ⊙ ⊙ Type III well
- ⊗ ⊗ Pumping well
- () Benzene concentration
in groundwater, in µg/L;
BDL, below detection limit;
BDL/BDL, duplicate sample

- NOTES:**
1. Where duplicate samples were collected, the higher value was utilized in contouring.
 2. NCAC T15A:02L standard for benzene is 1 µg/L.
 3. Type III wells not considered in contouring.

Figure D15. Monitor well locations and benzene plume at Underground Storage Tank Program Site Building FC251, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Richard Catlin & Associates, Inc. 1996d).

UST Site Building LCH4015 area

Building LCH4015 is located northeast of SR 24 in the northwestern part of the Midway Park housing area of USMCB Camp Lejeune (Faye et al. 2010, Plate 1). The facility was probably constructed during the early- to mid-1940s and, at one time, served as the main fuel farm for the base. An oil pollution survey conducted during 1976 described the site as an exchange service station that apparently dispensed fuel but did not provide maintenance services. At that time, fuel storage facilities consisted of three 15,000-gal ASTs that contained gasoline, three 10,000-gal ASTs that contained kerosene, and a 3,000-gal unused AST that probably contained diesel fuel at one time (SCS Engineers 1977; Law Engineering and Environmental Services, Inc. 1996e). Other facilities near and in the vicinity of UST Site Building LCH4015 that were also subjects of RCRA investigations of leaking ASTs and USTs include Buildings LCH4022 and SLCH4019. Results of these investigations are summarized herein in conjunction with results of studies at Building LCH4015.

Groundwater contamination was first detected at UST Site Building LCH4015 during a site check, which resulted in the construction and subsequent sampling of five monitor wells during November 1994 (BldgLCH4015_MW01–BldgLCH4015_MW05) (Table D4, Figure D16). All wells were screened within the Brewster Boulevard lower aquifer (Table D6). Concentrations of BTEX components were detected in all wells at this time and were especially high in monitor wells BldgLCH4015_MW01 and BldgLCH4015_MW02, located slightly north and east of Building LCH4015. Concentrations in well BldgLCH4015_MW01 ranged from 2,770 µg/L of ethylbenzene to 17,300 µg/L of toluene. The highest benzene concentration of 10,000 µg/L occurred in well BldgLCH4015_MW02. Other BTEX component concentrations detected in monitor well BldgLCH4015_MW02 ranged from less than 500 µg/L of toluene to 1,940 µg/L of xylenes (Table D4) (R.E. Wright Environmental, Inc. 1995c). Likely sources of BTEX contamination to the subsurface at UST Site Building LCH4015 were leaking underground fuel lines connecting the various ASTs at the site to fuel dispensers and a boiler located in the Midway Park community center (Building LCH4014) (Law Engineering and Environmental Services, Inc. 1996g).

A comprehensive site assessment conducted during 1995 resulted in the collection of groundwater samples from 15 hydropunch locations and the construction and sampling of an additional 15 monitor wells during June and

July 1995 (BldgLCH4015_HP01–BldgLCH4015_HP015; BldgLCH4015_MW06–BldgLCH4015_MW20) (Tables D6–D7, Figure D16). Monitor wells BldgLCH4015_MW13, BldgLCH4015_MW19, and BldgLCH4015_MW20 were constructed open to the Tarawa Terrace aquifer between 45 and 50 ft bgs. All other monitor wells constructed at this time were screened in the Brewster Boulevard lower aquifer, generally to a depth of 12.5 ft. Similarly, all hydropunch samples were collected from the Brewster Boulevard lower aquifer (Tables D6–D7). Sufficient groundwater concentration data were available following the site assessment to approximately delineate the boundaries of a benzene plume, which was centered generally north of Building LCH4015 and between that Building and the Midway Park community center (Figure D16). The concentration of benzene at the center of mass of the plume was 10,600 µg/L, at hydropunch location BldgLCH4015_HP11. An additional small plume was delineated west of the community center, centered on monitor well BldgLCH4015_MW11. The benzene concentration at the center of this plume was 20.5 µg/L (Figure D16; Table D4) (Law Engineering and Environmental Services, Inc. 1996e). Measurable free-phase hydrocarbon product was not observed in UST Site Building LCH4015 monitor wells. Concentrations of PCE, TCE, and related degradation products were determined in monitor wells BldgLCH4015_MW01–BldgLCH4015_MW05 during November 1994. All concentrations were less than detection limits.

A corrective action plan published during 1996 recommended construction of an AS/SVE system to remediate contaminated groundwater and development of a monitoring plan to verify appropriate operation of the AS/SVE system and to document remediation progress (Law Engineering and Environmental Services, Inc. 1996g). A network of 38 AS wells was installed between Building LCH4015 and the Midway Park community center, with one branch extending west of and parallel to the community center (Building LCH4014). Air sparge wells were generally installed to a depth of 8.5 ft within the upper part of the Brewster Boulevard lower aquifer. Operation of the AS/SVE system began during November 1998. The system was temporarily deactivated between June and August 2007, but operation continues to the present day (2012) with only minor interruptions for routine maintenance and sampling. As of April 2009, about 146,000 pounds of hydrocarbon mass were recovered from the AS/SVE system at UST Site Building LCH4015 (Shaw Environmental, Inc. 2009c).

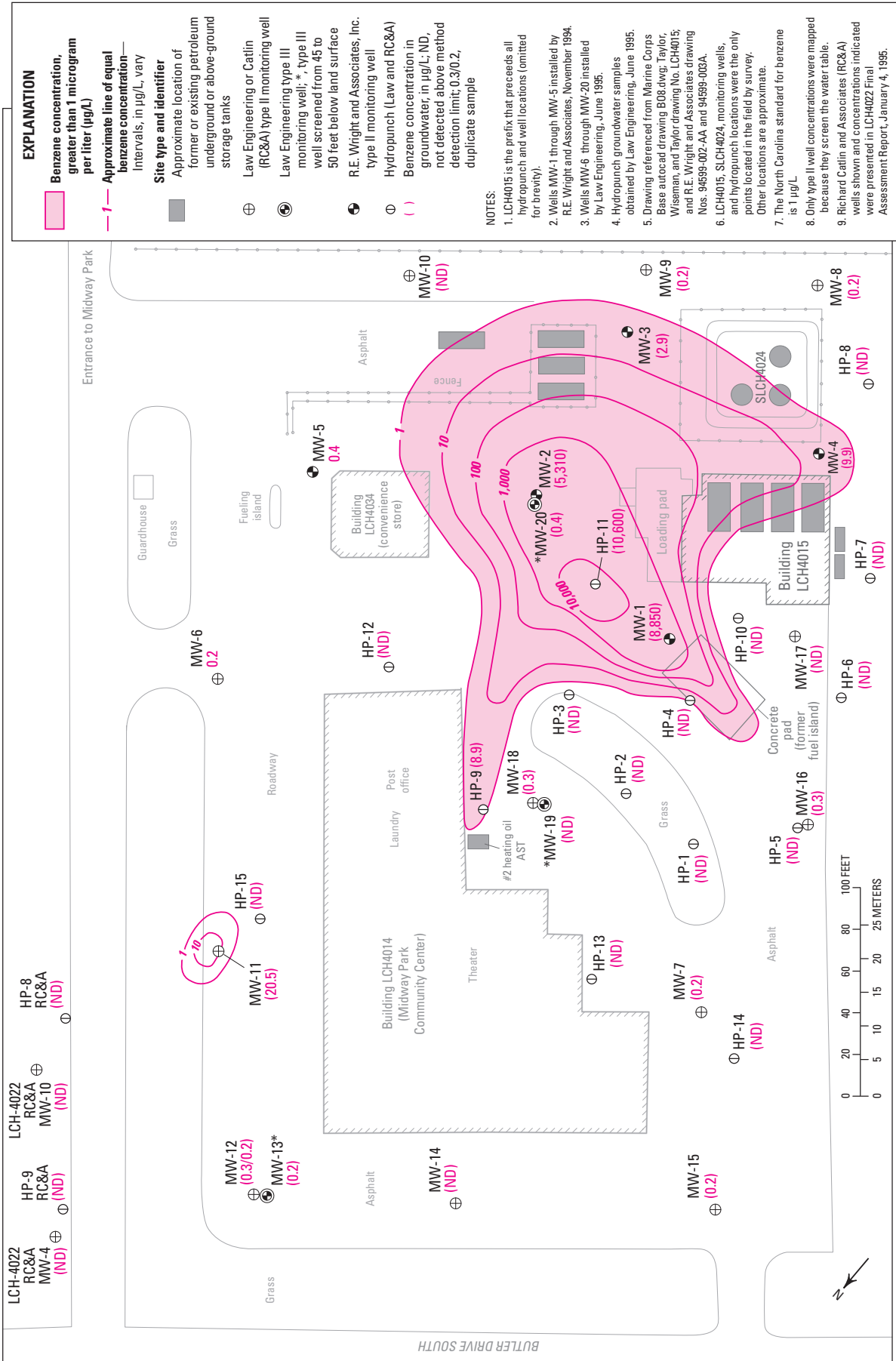


Figure D16. Monitor well and hydroponch locations and benzene plume at Underground Storage Tank Program Site Building LCH4015, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Law Engineering and Environmental Services, Inc. 1996a).

In order to assess the vertical extent of BTEX contamination in groundwater at UST Site Building LCH4015, three additional monitor wells were installed during June 2001 and were constructed open to the Tarawa Terrace aquifer between about 26 and 32 ft bgs (BldgLCH4015_MW21–BldgLCH4015_MW23) (Table D6). Each new well was paired with an existing shallow well: BldgLCH4015_MW21 with BldgLCH4015_MW18, BldgLCH4015_MW22 with BldgLCH4015_MW02, and BldgLCH4015_MW23 with BldgLCH4015_MW01 (Figure D17). Analyses of samples collected in these wells during November 2004 indicated concentrations of all BTEX components occurred greater than detection limits in wells BldgLCH4015_MW21 and BldgLCH4015_MW23. Concentrations ranged from less than 1.0 µg/L of toluene to about 74 µg/L of benzene in well BldgLCH4015_MW23 and from about 2.0 µg/L of toluene to 21 µg/L of benzene in well BldgLCH4015_MW21. Substantial concentrations of BTEX components occurred frequently in these wells during the 2004–2008 period of record, reaching a maximum of 122 µg/L of benzene in well

BldgLCH4015_MW23 during February 2007 (Table D4). The occurrence of LNAPLs, such as benzene and toluene, at such depths indicates induced vertically downward migration probably caused by pumping at nearby water-supply wells. Supply wells most proximate to UST Site Building LCH4015 are LCH4006 and LCH4009 at a distance of about 1,300 ft from the center of mass of the benzene plume shown in Figure D16 (Faye et al. 2010, Plate 1). As of December 2001, no BTEX component concentration greater than detection limits had been determined in supply well LCH4009.

Monitor well BldgLCH4015_MW24 was constructed during February 2005 to assess groundwater contamination in the vicinity of Building LCH4034, located about 130 ft northwest of Building LCH4015 (Figure D17). This well was also constructed open to the Brewster Boulevard lower aquifer. Concentrations of BTEX components were detected frequently in this well during several sampling events between March 2005 and October 2006 and ranged from an estimated 0.42 µg/L of toluene to 4.4 µg/L of benzene (Tables D4, D6) (Sovereign Consulting, Inc. 2007d).

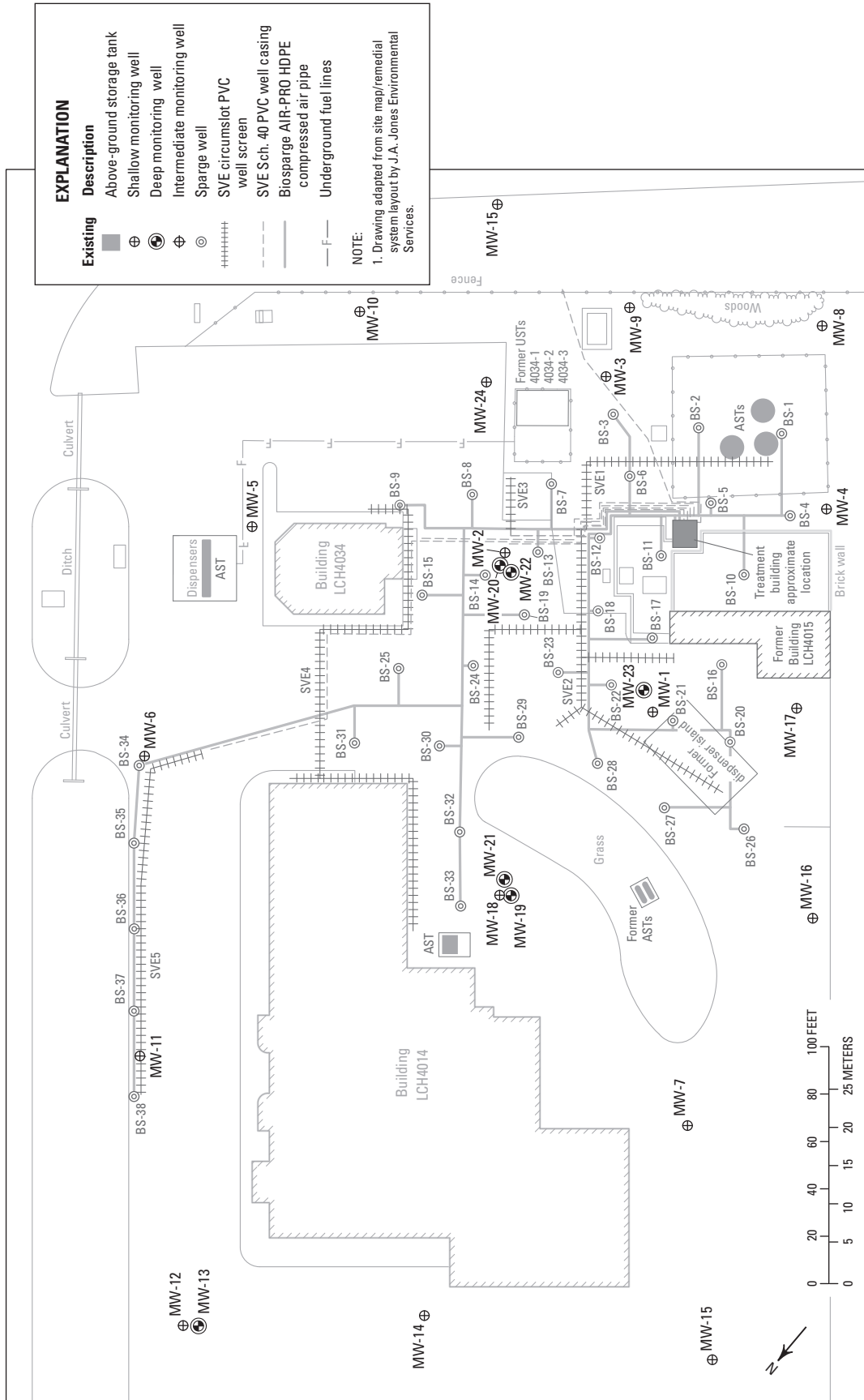


Figure D17. Monitor well locations and SVE network at Underground Storage Tank Program Site Building LCH4015, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Engineering and Environment, Inc. 2006c).

UST Site Building LCH4022—Midway Park Fire Station

Nearly simultaneous with investigations of BTEX contamination of groundwater at UST Site Building LCH4015 were similar investigations at Buildings LCH4022 (November 1993–July 2001) and SLCH4019 (April 1995). Building LCH4022 is located approximately 600 ft northwest of Building LCH4015 and is currently a fire station. Leakage of BTEX to the subsurface at Building LCH4022 was apparently associated with a 1,000-gal or possibly larger UST located approximately 35 ft southwest of Building LCH4022 and which was used to store diesel fuel for an emergency generator (Table D2). Investigations of groundwater contamination at UST Site Building LCH4022 began with a site check and the construction and sampling of three monitor wells open to the Brewster Boulevard lower aquifer during March and June 1993. These efforts detected contamination by all BTEX components in all wells, with the exception of toluene in wells BldgLCH4022_MW02 and BldgLCH4022_MW03 (Tables D4, D6). The maximum concentration of 160 µg/L of ethylbenzene occurred in well BldgLCH4022_MW03. Benzene concentrations ranged from 12 µg/L in well BldgLCH4022_MW01 to 110 µg/L in well BldgLCH4022_MW03. Free-phase hydrocarbon product was also measured in wells BldgLCH4022_MW02 and BldgLCH4022_MW03 during June 1993 at respective thicknesses of 1.19 and 7.95 ft (Groundwater Technology Government Services, Inc. 1993h). Between 1996 and August 1997, 0.33 gal of free-phase hydrocarbon product was recovered from UST Site Building LCH4022; wells BldgLCH4022_MW02 and BldgLCH4022_MW03 no longer contained measurable free-phase product thicknesses as a result (Richard Catlin and Associates, Inc. 1996e; Geophex, Ltd. 1997). Monitor well locations at UST Site Building LCH4022 are shown on Figure D18.

A comprehensive site assessment was initiated based on the site-check findings, resulting in the construction and sampling of 16 additional monitor wells and sampling at 10 hydropunch locations (Figure D18). With the possible exception of monitor well BldgLCH4022_MW19, all additional wells were screened open to the Brewster Boulevard lower aquifer. The open interval at well BldgLCH4022_MW19 possibly was open to the uppermost part of the Tarawa Terrace aquifer (Table D6). Sample depths at hydropunch locations were also within the Brewster Boulevard lower aquifer (Table D7). Samples collected at hydropunch locations and monitor wells, respectively, during November 1993

and January 1994, resulted in the detection of low BTEX concentrations or BTEX concentrations below detection limits at all hydropunch locations and in almost all monitor wells. All BTEX components except benzene were detected in well BldgLCH4022_MW12 and ranged from 2.5 µg/L of ethylbenzene to 19 µg/L of xylenes. Similarly, in well BldgLCH4022_MW19, all BTEX components were detected with the exception of toluene and ranged from 3.2 µg/L of xylenes to 39 µg/L of benzene (Richard Catlin and Associates, Inc. 1995b) (Tables D4, D6–D7). Based on the results of the site assessment, a corrective action plan was developed. The plan recommended that remediation of contaminated groundwater be accomplished by excavation of the contaminated soil in the immediate vicinity of the former UST and by relying on natural attenuation to ameliorate contaminant concentrations. Continued groundwater monitoring was also recommended to determine the effectiveness of the attenuation strategy. Five soil excavation events were accomplished between September 1998 and May 2000 and were needed because of the persistent occurrence of free-phase hydrocarbon product in monitor wells BldgLCH4022_MW01 and BldgLCH4022_MW19. Following the September 1998 excavation event, AFVR was accomplished at these wells and also at wells BldgLCH4022_MW02 and BldgLCH4022_MW03. A total of about 1,600 gallons of groundwater were removed from wells at this time; however, the quantity of hydrocarbon mass removed was not reported. Wells BldgLCH4022_MW01 and BldgLCH4022_MW19 were subsequently abandoned and replaced in the same locations to facilitate continued monitoring of free-phase occurrences. By January 2002, periodic analyses of samples from monitor wells indicated that natural attenuation probably would ultimately remediate BTEX concentrations in groundwater to or below regulatory limits, and periodic monitoring was subsequently terminated (Richard Catlin and Associates, Inc. 1996e; J.A. Jones Environmental Services Company 2002a).

Monitor wells in the vicinity of Building LCH4022 were constructed open to less than 20 ft bgs and almost entirely within the Brewster Boulevard lower aquifer (Table D6). Consequently, an evaluation of vertically downward BTEX migration to or below the Tarawa Terrace aquifer and any related influence from nearby pumping at supply wells was not possible. Supply well LCH4009 is located approximately 1,700 ft southwest of the center of mass of the benzene plume shown in Figure D18 (Faye et al. 2010, Plate 1). Concentrations of PCE, TCE, and several related degradation products were determined in samples from wells BldgLCH4022_MW08 and BLDGLCH4022_MW09 during January 1994. All concentrations were below detection limits.

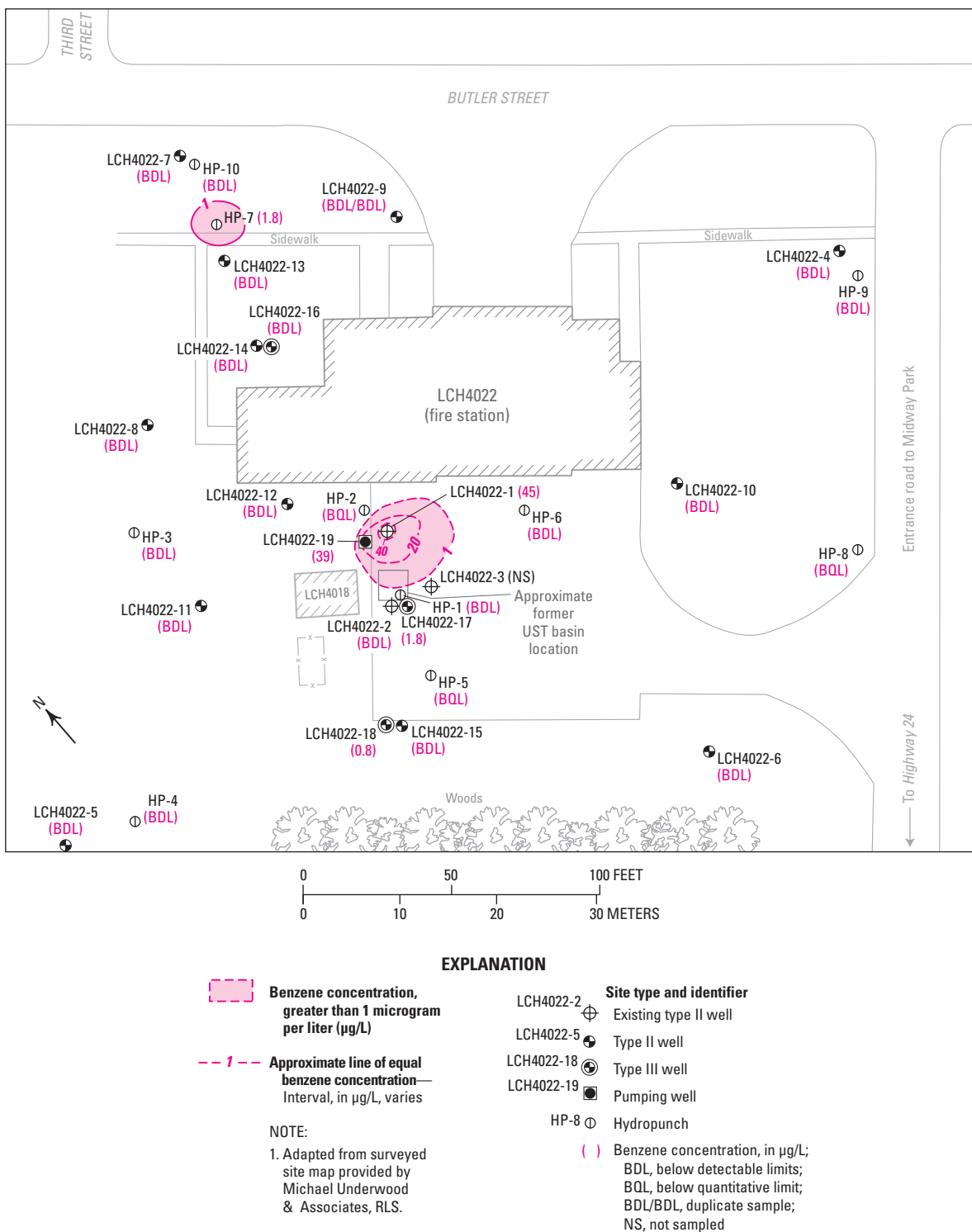


Figure D18. Monitor well locations and benzene plumes at Underground Storage Tank Program Site Building LCH4022, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Richard Catlin and Associates, Inc. 1995b).

UST Site Building SLCH4019

Former Building SLCH4019 was located about 650 ft north of Building LCH4015 and probably served as a storage facility. A washrack, also designated as Building SLCH4019, currently occupies all or part of the former Building SLCH4019 location. Leakage of BTEX components to the subsurface at Building SLCH4019 was apparently associated with a 500- or 550-gal UST located about 25 ft east of the washrack (Table D2). Three monitor wells were installed during a site check conducted during October 1993 (BldgSLCH4019_MW01–BldgSLCH4019_MW03). Each well was constructed open to the Brewster Boulevard lower aquifer (Table D6). Analysis of samples from each well indicated substantial groundwater contamination by BTEX components in wells BldgSLCH4019_MW02 and BldgSLCH4019_MW03. Concentrations of BTEX components detected in well BldgSLCH4019_MW03 ranged from 2,750 µg/L of ethylbenzene to 30,080 µg/L of benzene (R.E. Wright Associates, Inc. 1994j; Law Engineering and Environmental Services, Inc. 1996g).

Results of the site check initiated a comprehensive assessment of groundwater contamination in the vicinity of Building SLCH4019. An additional seven monitor wells were installed and sampled (BldgSLCH4019_MW04–BldgSLCH4019_MW10). Wells were constructed open to either the Brewster Boulevard lower aquifer or the Tarawa Terrace aquifer (Table D6). Groundwater samples were also collected at 15 hydropunch locations within the Brewster Boulevard lower aquifer (Figure D19, Tables D6–D7). Groundwater samples were collected during April and May 1995. Concentrations of BTEX components were below detection limits, or less than 1.0 µg/L, in all monitor wells, with the exception of samples collected in wells BldgSLCH4019_MW01–BldgSLCH4019_MW03. Similar to the site-check results, concentrations of BTEX components

were greatest in well BldgSLCH4019_MW03, ranging from 1,600 µg/L of ethylbenzene to 11,000 µg/L of toluene. The benzene concentration was 5,200 µg/L. Determinations of BTEX component concentrations occurred below detection limits at all hydropunch locations, with the exception of the sample from BldgSLCH4019_HP10. All BTEX components were detected in the sample from BldgSLCH4019_HP10 and ranged from 2,330 µg/L of ethylbenzene to 9,230 µg/L of toluene. The benzene concentration was 6,010 µg/L. BTEX component concentrations in samples collected from wells BldgSLCH4019_MW04 and BldgSLCH4019_MW10, open to the Tarawa Terrace aquifer, were all less than detection limits (Table D6). No free-phase hydrocarbon product was measured in any monitor well. Results of the site assessment indicated that BTEX and other contaminant concentrations in soil and groundwater in the vicinity of Building SLCH4019 were less than regulatory limits, and a “no further action” request was initiated by USMCB Camp Lejeune during October 1998. Additional groundwater monitoring at the site was probably discontinued at this time.

Prior to the “no further action” request, during the latter half of 1997, a pilot remediation test utilizing an “oxygen release compound” was conducted in several monitor wells at UST Site Building SLCH4019. As a result of this test, monitor wells BldgSLCH4019_MW11 and SLCH4019_MW12 were constructed (Table D6) (Law Engineering and Environmental Services, Inc. 1998d). The test results from the pilot remediation test utilizing an “oxygen release compound” indicated fluctuating concentrations of BTEX concentrations in monitor wells but no noticeable trend in the reduction of concentrations.

A single PCE concentration of 1,150 µg/L was determined in monitor well BldgSLCH4019_MW03 during the site check of October 1993. No concentrations of PCE, TCE, or related degradation products occurred greater than detection limits in any samples collected during April and May 1995 (Table D5).



- Benzene concentration, greater than 1 microgram per liter ($\mu\text{g/L}$)
- Approximate line of equal benzene concentration—Intervals, in $\mu\text{g/L}$, vary
- Site type and identifier**
- MW-10 ⊕ Law Engineering type II monitoring well
- MW-5 ⊙ Law Engineering type III monitoring well
- MW-1 ⊕ R.E. Wright Inc. type II monitoring well
- HP-1 ⊕ Hydropunch
- () Benzene concentration, in $\mu\text{g/L}$;
ND/ND, duplicate sample;
ND, no data

EXPLANATION

NOTES:

1. SLCH4019 is the prefix which precedes all monitoring wells and hydropunch sample locations (omitted for brevity).
2. Wells MW-1 through MW-3 installed by R.E. Wright and Associates, October 1993.
3. Wells MW-4 through MW-10 installed by Law Engineering, April 1995.
4. Hydropunch groundwater samples obtained by Law Engineering, April 1995.
5. Drawing referenced from Marine Corps Base autocad drawing B08.dwg; Taylor, Wiseman, and Taylor drawing No. SLCH-4019; and R.E. Wright and Associates drawing No. 94450-004-AA.
6. The three LCH buildings shown, SLCH4019, monitoring wells, and hydropunch locations were the only points located in the field by survey. Other locations are approximate.
7. The North Carolina groundwater standard for benzene is 1 $\mu\text{g/L}$.

Figure D19. Monitor well locations and benzene plumes at Underground Storage Tank Program Site Building SLCH4019, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Law Engineering and Environmental Services, Inc. 1996g).

UST Site Hadnot Point Fuel Farm— Building 1115 area

Groundwater contamination by BTEX components in the vicinity of the HPFF was first investigated during 1988–1990 as part of groundwater contamination and remediation investigations under the auspices of CERCLA. Much of the study area was formally designated as the Industrial Area Tank Farm, Hadnot Point Tank Farm, or the Hadnot Point Industrial Area fuel farm and was assigned to the IRP as Site 22 (O'Brien and Gere Engineers, Inc. 1988, 1990; Faye et al. 2010). In addition, a large part of the HPFF area also corresponds to the eastern part of IRP Site 78 (Faye et al. 2010). The RCRA area of interest (this study) includes the areas originally assigned to IRP Site 22 and the eastern part of IRP Site 78, as well as Buildings 1100, 1101, 1106, 1114, 1115 and the Michael Road Fuel Farm (MRFF). The site is located within the east-central part of the HPIA, south of Holcomb Boulevard and west of Sneads Ferry Road (Faye et al. 2010, Plate 1). Groundwater contaminant and monitor well construction data pertinent to IRP Sites 22 and 78 are summarized in Chapter C of this report series and are partially repeated herein (Faye et al. 2010, pages C26–C28, C36–C43, Tables C36–C39, C52–C54) (Tables D4–D6).

UST Site HPFF—Building 1115

The HPFF previously served as the primary fuel farm for USMCB Camp Lejeune and probably was constructed about 1941, along with much of the original infrastructure of the Base (O'Brien and Gere Engineers, Inc. 1988). The HPFF originally consisted of 15 fuel storage tanks: 1 AST with a capacity of 600,000 gal, 6 USTs with capacities of 12,000 gal each, and 8 USTs with capacities of 15,000 gal each. The large AST contained diesel fuel, and the other tanks contained gasoline, unleaded gasoline, and/or kerosene (Table D2). Tanks S-1023–S-1036, T-1002A, B, C, D, and E, T-10024, and T-10025 (Table D2) were removed during December 1992–February 1993 (UST Management WEB Portal File #1186—“Tank closure Report, S&H Mechanical Contractors, Vehicle Ready Fuel Storage, Marine Corps Base, Camp Lejeune, North Carolina”). The date of removal of AST S-1009 is unknown; however, all tanks and associated piping reportedly were removed during 1993 (Catlin Engineers and Scientists 2003d).

The occurrences of BTEX components in the subsurface at the HPFF are probably the result of leakage from the HPFF tanks and associated piping, as well as spills that occurred during fuel transfers from various transport facilities such as tank trucks and railroad tank cars. During an inspection of HPFF fuel storage facilities in June 1980, all storage tank valves were suspected of leaking because of age (Earl J. Ingram, Condition Survey POL Facilities, Camp Lejeune, North Carolina, written communication, June 27, 1980;

CERCLA Administrative Record file #96). When leakage first occurred and the rates of leakage that occurred over the period of HPFF operations (approximately 1941–1991) are unknown. However, estimates of the volume of free-phase hydrocarbon product within the HPFF and surrounding areas were determined by Baker Environmental, Inc., probably during 1996, using the SpillCAD code (Environmental Systems and Technology, Inc. 1994). Free-phase volume estimates ranged from about 830,000 to 1,100,000 gal depending on the period of record of the input data applied to the model, 1992–1996 or 1988–1991, respectively. The calculated area of the free-phase plumes ranged from about 11,000 to 12,000 square feet (ft²) (UST Management WEB Portal File #1185—“Groundwater and subsurface product evaluation at the former Hadnot Point Fuel Farm and Building 1115 areas, Marine Corps Base, Camp Lejeune, North Carolina”). These free-phase volume estimates, however, must be considered a minimum loss from fuel storage facilities within the HPFF area because the SpillCAD model did not compute the dissolved mass of hydrocarbon product within the soil column below the water table. A letter from the Staff Judge Advocate at USMCB Camp Lejeune indicated that as of March 1988, combined leakage from HPFF facilities occurred at a rate of 1,500 gal/month [Staff Judge Advocate, USMCB Camp Lejeune, Leaking Underground Storage Tanks (UST); Gasoline Contamination in Hadnot Point Farm Area, written communication, March 29, 1988]. CH2MHill (2001) provided an “order-of-magnitude” estimate of total hydrocarbon mass in the subsurface at the combined former HPFF and Building 1115 site that ranged from 2,500,000 to 6,800,000 pounds, or approximately 400,000 to 1,100,000 gal. Also based on this “rough estimate,” approximately 65 percent of the total mass occurs in the residual phase, 35 percent occurs in the mobile phase, and less than 1 percent occurs in the vapor phase.

BTEX concentration data from numerous soil cores and water samples from monitor wells collected during site assessments and other subsurface characterizations at the HPFF and surrounding areas indicate BTEX components occur in the soil and water column to at least a depth of 150 ft (HPFF_MW60 and HPFF_MW78) (Figure D14, Tables D4, D6) (Catlin Engineers and Scientists 2002c; Geophex, Ltd. 2002a). Based on odor and/or ionization detector readings, several boring logs indicate continuous or near continuous hydrocarbon product within relatively thick sections of the subsurface soil column. For example, at monitor well HPFF_MW60, located east of Building 1101 and adjacent to the railroad track spur (Figure D20), qualitative evaluations of hydrocarbon odor indicated continuously high concentrations of hydrocarbon product in the soil column from near land surface to a depth of 43 ft bgs and from 80 to 96 ft bgs. Hydrocarbon odor was not detected in other intervals of the soil column to a bottom depth of 150 ft bgs. Similarly, at monitor well Bldg1115_MW19, located between Buildings 1108 and 1101 (Figure D21), corresponding odor evaluations and ionization detector readings indicated continuously high hydrocarbon

concentrations within the soil column from land surface to 35 ft bgs and moderate to low hydrocarbon concentrations in the soil column between 35 and 47 ft bgs. The borehole was drilled to a depth of 52.5 ft (Figure D21) (Catlin Engineers and Scientists 2002c; Geophex, Ltd. 2002a). These examples of hydrocarbon occurrences in the subsurface at the HPFF are typical of similar boring log data collected throughout much, if not most, of the HPFF and Building 1115 areas.

Investigations of BTEX contamination in groundwater at the HPFF began with the Navy Assessment and Control of Installation Pollutants (NACIP) Program during 1984. One result of the NACIP Program was the start of phased investigations of groundwater contamination at several locations within the Hadnot Point–Holcomb Boulevard study area, including the HPFF (IRP sites 1, 9, and 22, Figure D3) (Faye et al. 2010). Monitor well networks were constructed and sampled during these investigations, including installation of two wells at the HPFF—HPGW22-1 and HPGW22-2 (shown as wells 78GW22-1 and 78GW22-2 on Figure D21). Both wells were constructed open to the Brewster Boulevard upper aquifer and were sampled during July 1984. BTEX concentrations detected in well HPGW22-1 at the time were high, ranging from 3,800 µg/L of ethylbenzene to 27,000 µg/L of toluene. The benzene concentration was 17,000 µg/L. Concentrations of xylenes were not determined (Tables D4, D6) (Environmental Science and Engineering, Inc. 1985; Faye et al. 2010, Table C37). In 1986, the NACIP Program was converted to the CERCLA IRP, with requirements that IRP plans and procedures conform to USEPA standards and regulations (Camp Lejeune Water Document CLW #1821). During April 1992, investigations of groundwater contamination at the HPFF were transferred from CERCLA responsibility to RCRA, based on the assertion that the only apparent source of petroleum product contamination to the subsurface was the fuel farm and that the primary contaminant was “jet fuel” (CERCLA Administrative Record files #724, #727, #728).

Under the auspices of CERCLA, the first comprehensive study of groundwater contamination at the HPFF was conducted during February–April 1988 by O’Brien and Gere Engineers, Inc. (1988). Twenty monitor wells were constructed open to the Brewster Boulevard aquifer system in the immediate vicinity of the HPFF and at several locations somewhat north and south of the HPFF, and these wells were subsequently sampled (IRP22_MW01–IRP22_MW20, Tables D4, D5) (Faye et al. 2010, Figure C9). Locations of these wells on Figures D20 and D21 are prefaced by the number 22; for example 22-MW04. Concentrations of at least one BTEX component greater than detection limits were determined in all 20 monitor wells, ranging from 1.0 µg/L of each of several components in several wells to 110,000 µg/L of toluene in well IRP22_MW02. Benzene concentrations ranged from less than 1.0 µg/L in several wells to 29,000 µg/L in well IRP22_MW02 (Figure D20, Table D4). Free-phase hydrocarbon product was measured in six monitor wells,

ranging in thickness from less than 1 ft in wells IRP22_MW07 and IRP22_MW15 to more than 15 ft in well IRP22_MW16. These data composed part of the information input to the SpillCAD code and were used for the free-phase volume simulations discussed previously.

During 1989, five additional monitor wells were constructed, also open to the Brewster Boulevard aquifer system. Two wells replaced original wells IRP22_MW07 (IRP22_MW07R) and IRP22_MW08 (IRP22_MW08R), and three wells were in new locations (IRP22_MW21–IRP22_MW23). In addition, two recovery wells were constructed to facilitate removal of free-phase hydrocarbon product (IRP22_RW01 and IRP22_RW02) (O’Brien and Gere Engineers, Inc. 1990) (Table D6). Results of these investigations are summarized in detail in Faye et al. (2010, Tables C36–C39). In addition, most monitor wells constructed by O’Brien and Gere Engineers, Inc. (1988, 1990) continued to be sampled during subsequent RCRA investigations at the HPFF and vicinity, along with several wells constructed as part of IRP investigations at Site 78, and these data are also listed in Tables D4–D6 (IRP22-MWA; IRP22_MW01–IRP22_MW06; IRP22_MW09–IRP22_MW12; IRP22_MW15; IRP22_MW17–IRP22_MW21; IRP22_RW01–IRP22_RW04; IRP78_GW12–IRP78_GW17-2; IRP78_GW19–IRP78_GW21; IRP78_GW31-2–IRP78_GW31-3; IRP78_GW32-2–IRP78_GW32-3).

Efforts to extract free-phase hydrocarbon product (mostly gasoline) at and in the vicinity of the HPFF initiated the construction of two additional extraction wells during 1991 (IRP22_RW03 and IRP22_RW04). To this effort, a product recovery system (PRS) was installed in extraction wells during 1991 and continued in operation until September 1997, when the program was temporarily suspended in favor of an alternative AFVR program. By December 1996, the PRS extraction network had been expanded to a fifth well, IRP22_MW16 (noted as well 16R in cited documents). An additional extraction well was added to the PRS during October 1998 (HPFF_RW05). The PRS was reactivated in September 1999, operating at three monitor wells (IRP22_RW04, HPFF_RW05, and IRP22_MW16), and continued in operation until at least March 2008. Extraction at well IRP22_RW04 was terminated in September 2003 due to a lack of free-phase product observed in the well during the previous year. Additional efforts to remediate and recover free-phase hydrocarbon product from the subsurface included the use of skimmers and manual bailing. Skimming and manual bailing operations in monitor wells began probably in 1993 in the vicinity of Building 1115 and during 1995 in the vicinity of the former HPFF. Operations occurred in all monitor wells that contained measurable thicknesses of free-phase hydrocarbon product and were shifted from well to well, as necessary, to maximize recovery.

The AFVR program was activated in September 1997 and operated continuously until at least March 2008. AFVR operations were conducted in dozens of monitor wells in a manner similar to the skimming and manual bailing program,

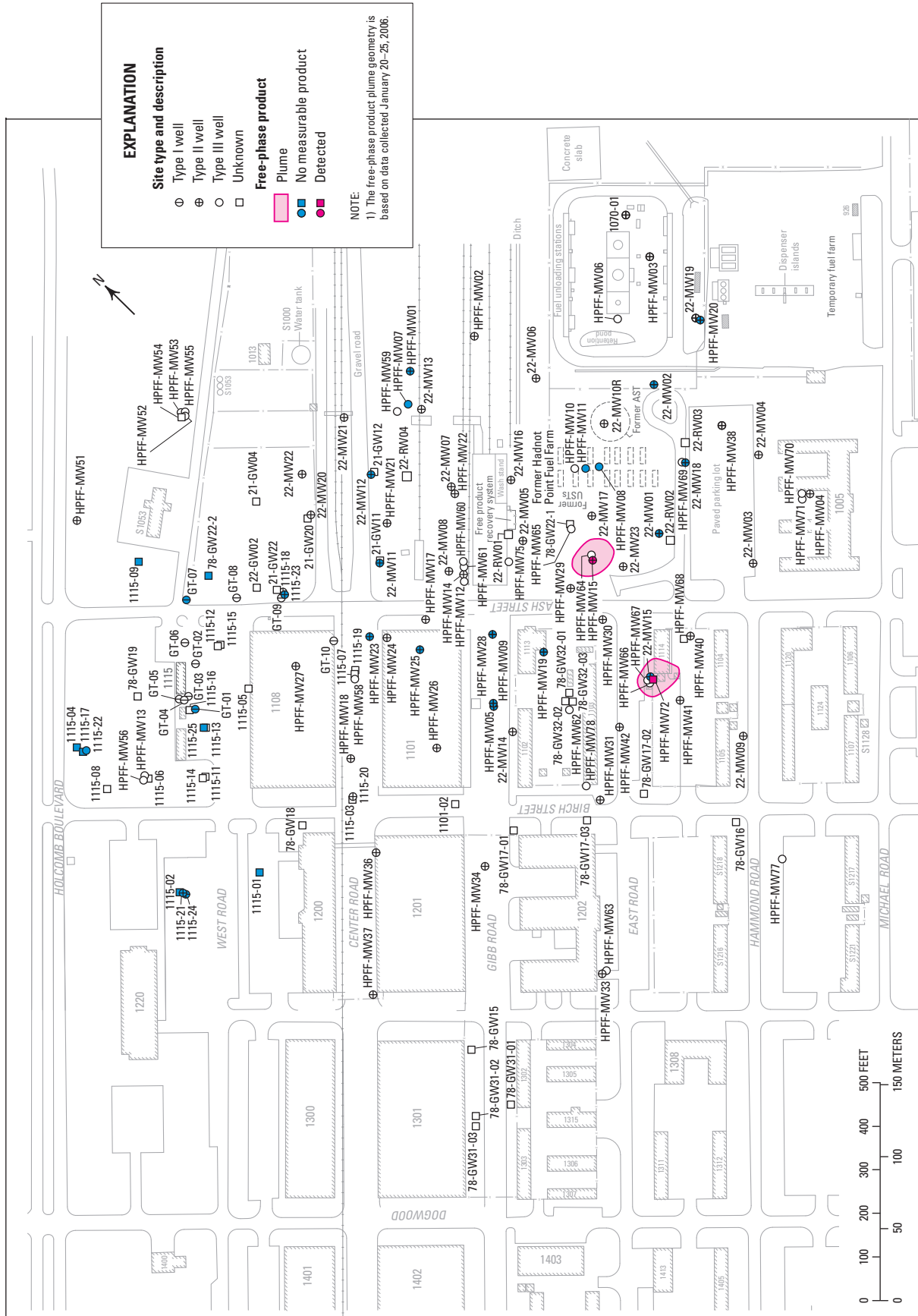


Figure D20. Monitor well locations and benzene plumes at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, January 2006, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2007a).



Figure D21. Monitor well, hydropunch, and soil boring locations at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Richard Catlin and Associates, Inc. 1997c).

such that extraction of contaminated groundwater and free-phase hydrocarbon product was implemented only in monitor wells of opportunity. AFVR operations were discontinued in the vicinity of Building 1115 in December 1998 due to the lack of free-phase hydrocarbon product in monitor wells. An additional remedial action was initiated about mid-2000 in the vicinity of Building 1101, located west of Ash Street and one block northwest of the former HPFF (Figures D4, D21). An SVE trench was constructed on the northeast side of the building to intercept vapors emanating from subsurface accumulations of free-phase hydrocarbon product and to prevent vapor entry into the building through the floor. Extraction of soil vapors from this trench system was active at least through year 2000 (Figure D21, Table D6) (CH2MHill 2001; Richard Catlin and Associates, Inc. 1997b; Catlin Engineers and Scientists 1998b; UST Management

WEB Portal File #1186—“Richard Catlin and Associates, Inc., Monthly Monitoring Report, Product Recovery/Drawdown, Water Treatment, July 1992”; UST Management WEB Portal File #1186—“Well construction record, December 31, 1998, Marine Corps Base, Camp Lejeune, North Carolina”). Approximate mass and volumes of hydrocarbon product removed from the subsurface using these remedial actions are listed in Table D9. As of March 2008, the combined remedial operations of the PRS, the AFVR, and skimming and manual bailing had removed approximately 65,000 gal of free-phase hydrocarbon product (mostly gasoline) from the subsurface in the vicinity of the former HPFF and Buildings 1101 and 1115 (Table D9). Note that AFVR operations data are not listed for year 1999. Note, as well, that listed values of recovered mass and volume are rounded to 2 or 3 significant figures, compared to corresponding values in cited documents.

Table D9. Locations and methods of RCRA remedial actions within the Hadnot Point Fuel Farm/Building 1115 area and respective quantities of hydrocarbon product removed from the subsurface, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[RCRA, Resource Conservation and Recovery Act; period of record in mm/dd/yyyy; HPFF, Hadnot Point Fuel Farm; N/A, data not available]

Remedial action	Site name ¹	Period of record	Mass of hydrocarbon product removed, in pounds	Volume of hydrocarbon product removed, in gallons
Product recovery system (PRS)	HPFF	10/ /1991–9/ /1997	N/A	26,900
		9/ /1999–3/ /2008	N/A	3,600
Skimmers and manual bailers	Building 1115	1993–8/ /1997	N/A	1,100
	HPFF	1993–8/ /1997	² 1,650	450
Aggressive fluid/vapor recovery system (AFVR)	Building 1115	9/ /1997–12/ /1998	1,610	260
	HPFF	9/ /1997–12/ /1998	102,800	16,400
	HPFF	1/ /2000–12/ /2000	13,000	2,100
	HPFF	1/ /2001–12/ /2001	8,700	1,400
	HPFF	9/ /2001–8/ /2002	5,400	860
	HPFF	9/ /2002–8/ /2003	N/A	170
	HPFF	9/ /2003–8/ /2004	5,000	790
	HPFF	9/ /2004–8/ /2005	4,700	750
	HPFF	9/ /2005–5/ /2007	5,000	800
Soil vapor extraction (SVE) trench	Building 1101	2000	58,500	9,300

¹ See Faye et al. 2010 (Plate 1) for site locations

² Cumulative mass for period of record 1996–August 1997

Data sources:

UST Management Web Portal files #407, #416, #420, #456, #664, #670, #2003_FINAL_HADNOT_POINT, #HADNOT_PT_1115_SITES_FINAL_2004_ANNUAL_AS.SVE_MONITORING_REPORT, #HPFF_2005ASSVEMONRPT, #HPFF_2007AMR, #HPFF_2007/2008_AMR_061608

Catlin Engineers and Scientists 1998b

CH2MHill 2001

Geophex, Ltd. 1997

OHM Remediation Services Corp. 2001a, 2002a

Shaw Environmental, Inc. 2003b, 2004b, 2005a, 2006a, 2007a, 2008b

During 1993, additional investigations of groundwater contamination by BTEX components were also initiated at and in the vicinity of Buildings 1100 and 1115, located approximately 1,150 ft northwest of the immediate HPPF area (Figure D21). Building 1115 was originally constructed in 1949 and probably was originally used as a fleet service and refueling facility (Richard Catlin and Associates, Inc. 1998b). Later, Building 1115 was used successively as a Base Exchange service station (1957–1965), for administration offices (1965–1972), for data processing (1972–1976), and as a printing facility (1976–1986). Building 1115 was a photo processing facility in May 1988 (Environmental Science and Engineering, Inc. 1988). By 1998, Building 1115 was used as a vehicle maintenance facility (Richard Catlin and Associates, Inc. 1998b).

Seven USTs were originally installed at nearby Building 1100, which contained gasoline and probably diesel fuel (Table D2). Tanks 1100-1–1100-3 were installed during the 1940s, were “deactivated” in 1951, and were removed during March 1993 (Groundwater Technology Government Services, Inc. 1993a; U.S. Marine Corps Camp Lejeune 2003a). The remaining four tanks (1100-4–1100-7) were installed in 1951. Although the exact removal date is unknown, all seven tanks were removed prior to March 21, 1993. The excavation of tank 1100-1 indicated leakage from connecting pipes during removal (U.S. Marine Corps Camp Lejeune 2003a).

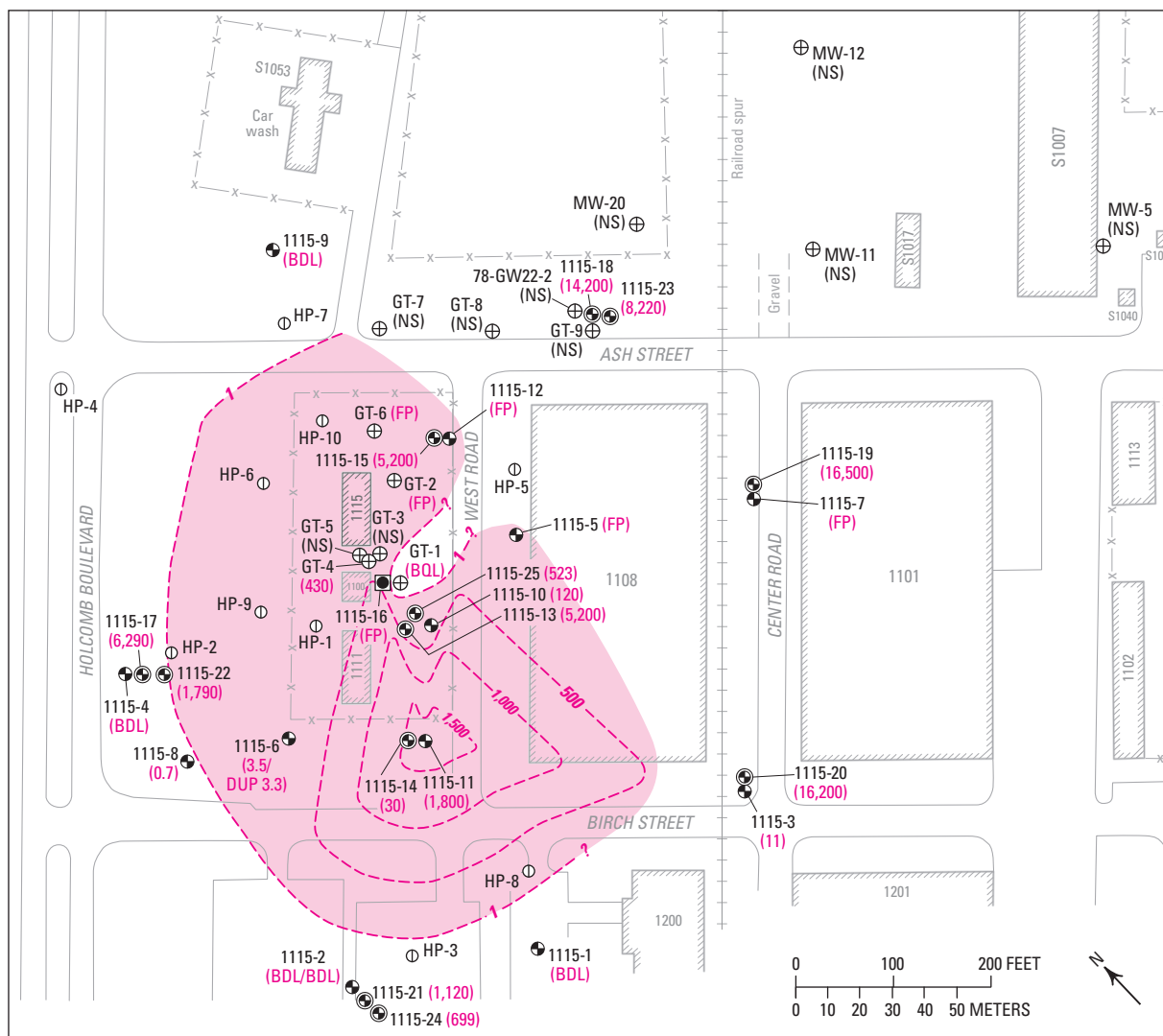
Ten monitor wells were installed in the vicinity of Buildings 1100 and 1115 and were open, for the most part, to the Brewster Boulevard upper aquifer and were sampled during June 1993 as part of a site check (GT01–GT10) (Groundwater Technology Government Services, Inc. 1993a) (Table D6). Concentrations of BTEX components at the time greater than detection limits were substantial in several monitor wells and ranged from 7.9 µg/L of ethylbenzene in monitor well Bldg1115_GT08 to 49,000 µg/L of toluene in well Bldg1115_GT02. Benzene concentrations ranged from 8.5 µg/L in well Bldg1115_GT09 to 26,000 µg/L in well Bldg1115_GT02. BTEX content was mostly gasoline with lesser quantities of “mineral spirits.” In addition to the sampled monitor wells, thicknesses of free-phase hydrocarbon product were measured in wells Bldg1115_GT03, Bldg1115_GT04, and Bldg1115_GT10, ranging from about 0.2 ft to 10.2 ft. Concentrations of chlorinated alkenes greater than detection limits were also observed in several monitor wells and ranged from about 1 µg/L of vinyl chloride in well Bldg1115_GT07 to 110 µg/L of total *trans*-1,2-DCE in well Bldg1115_GT08. Vinyl chloride was also detected in well Bldg1115_GT08 at a concentration of 6 µg/L. Similar concentrations of 1,2-DCE and PCE were also reported in wells Bldg1115_GT04 and Bldg1115_GT05 (Figure D21, Table D5). The occurrence of vinyl chloride in several of the monitor wells indicates that degradation pathways were substantially complete at the time and is possibly indicative of relatively long-term residence of the chlorinated alkenes in the subsurface in the vicinity of Building 1115. In

addition, the relatively frequent and widespread occurrences of chlorinated alkenes in groundwater coincident in time and space with BTEX components at and in the vicinity of Buildings 1100 and 1115 indicate that substantial mixing of respective contaminant plumes had occurred by June 1993 (Groundwater Technology Government Services, Inc. 1993a). Such results also call into question the assertion by USMCB Camp Lejeune during April 1992 that the only source of petroleum product contamination in the vicinity of original IRP Site 22 was the HPPF and that the primary contaminant at the IRP site was “jet fuel.”

Following the site check investigation, a comprehensive assessment of groundwater contamination at UST Site Building 1115 began later in 1993, resulting in the installation of 16 additional monitor wells (Bldg1115_MW01–Bldg1115_MW16), all constructed open, for the most part, to the Brewster Boulevard upper aquifer (Figure D21, Table D6). These wells were sampled during December 1993 and, with few exceptions, contained concentrations of one or more BTEX components. Concentrations of BTEX components greater than detection limits ranged from 11 µg/L of benzene in well Bldg1115_MW03 to 58,000 µg/L of toluene in well Bldg1115_MW12. The maximum concentration of benzene (23,000 µg/L) occurred in well Bldg1115_MW12. Similar to earlier observations in the GT wells, concentrations of chlorinated alkenes ranged from 1.5 µg/L of TCE to 2.6 µg/L of PCE, all in well Bldg1115_MW10 (Tables D4–D5). Free-phase hydrocarbon product was also measured in six monitor wells during January 1994, ranging in thickness from 16 ft in well Bldg1115_MW16 to about 0.2 ft in wells Bldg1115_GT06 and Bldg1115_MW05 (Figure D21). Other wells that contained a measurable thickness of free-phase hydrocarbon product were Bldg1115_GT06, Bldg1115_MW07, and Bldg1115_MW07 (Richard Catlin and Associates, Inc. 1998b).

An additional site assessment undertaken at UST Site Building 1115 during 1995 resulted in the construction of nine additional monitor wells: five open to the Brewster Boulevard lower aquifer at depths of about 50 ft bgs (Bldg1115_MW17–Bldg1115_MW21) and four open to the Tarawa Terrace aquifer (Bldg1115_MW22–Bldg1115_MW25) at depths of about 80 ft bgs (Table D6). Concentrations of BTEX components greater than detection limits determined in the deep monitor wells during July 1995 ranged from 2.4 µg/L of ethylbenzene in well Bldg1115_MW25 to 8,220 µg/L of benzene in well Bldg1115_MW23. With the exception of xylenes, all BTEX components were detected in all of the deep monitor wells. The minimum concentration of benzene of 523 µg/L occurred in well Bldg1115_MW25. The approximate limits of the benzene plume at UST Site Building 1115 during July 1995 are shown in Figure D22. Data shown are inclusive of the Brewster Boulevard aquifer system and the Tarawa Terrace aquifer.

The occurrence of LNAPL BTEX components at such high concentrations within the Tarawa Terrace aquifer is highly indicative of migration from the Brewster Boulevard aquifer



EXPLANATION

- Benzene concentration, greater than 1 microgram per liter (µg/L)
- 1 --- Approximate line of equal benzene concentration—Interval, in µg/L, varies
- Site type and identifier**
- Existing type II well
- Type II well
- Type III well
- Pumping well
- Hydropunch
- () Benzene concentration, in µg/L; FP, free product; BDL, below detection limits; BQL, below quantitation limit; BDL/BDL, duplicate sample; NS, not sampled

NOTES:

1. Adapted from surveyed site map provided by Michael Underwood & Associates, RLS.
2. Samples GT-1, GT-2, GT-4, 1115-1 through 1115-16, and HP-1 through HP-10 were collected by Richard Catlin and Associates, Inc., November and December 1993.
3. Samples 1115-17 through 1115-25 were collected by Richard Catlin and Associates, Inc., July 1995.
4. NCAC T15A.02L standard for benzene is 1 µg/L.
5. Type III wells and hydropunches not considered in contouring.
6. Wells containing free product not considered in contouring: 1115-5, 1115-7, 1115-12, 1115-16, GT-2, and GT-6.

Figure D22. Monitor well locations and benzene plume at Underground Storage Tank Program Site Building 1115, July 1995, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Richard Catlin and Associates, Inc. 1998a).

system along downward vertical hydraulic gradients caused by pumping at nearby supply wells, most notably HP-602. Supply well HP-602 is located approximately 660 ft directly north of the center of the benzene plume shown in Figure D22 and is immediately adjacent to monitor well 78-GW20 (destroyed) shown in Figures D24–D30. Between July 1984 and January 1991, concentrations of benzene greater than detection limits were determined on six occasions in well HP-602, ranging from 17 µg/L to 720 µg/L (Faye et al. 2010, Table C8).

Measurements of free-phase thickness in UST Site Building 1115 monitor wells during July 1995 ranged from

0.65 ft in wells Bldg1115_GT02 and Bldg1115_MW16 to 4.0 ft in well Bldg1115_MW12. Free-phase thickness in several wells was substantially less compared to similar measurements obtained during January 1994, probably due, in part, to free-phase product recovery (skimmer or AFVR) operations initiated previously in wells Bldg1115_GT04 and Bldg1115_GT05. The approximate extent of free-phase hydrocarbon product at UST Site Building 1115 during July 1995 is shown in Figure D23 (Catlin Engineers and Scientists, 1998b; Richard Catlin and Associates, Inc. 1998a).

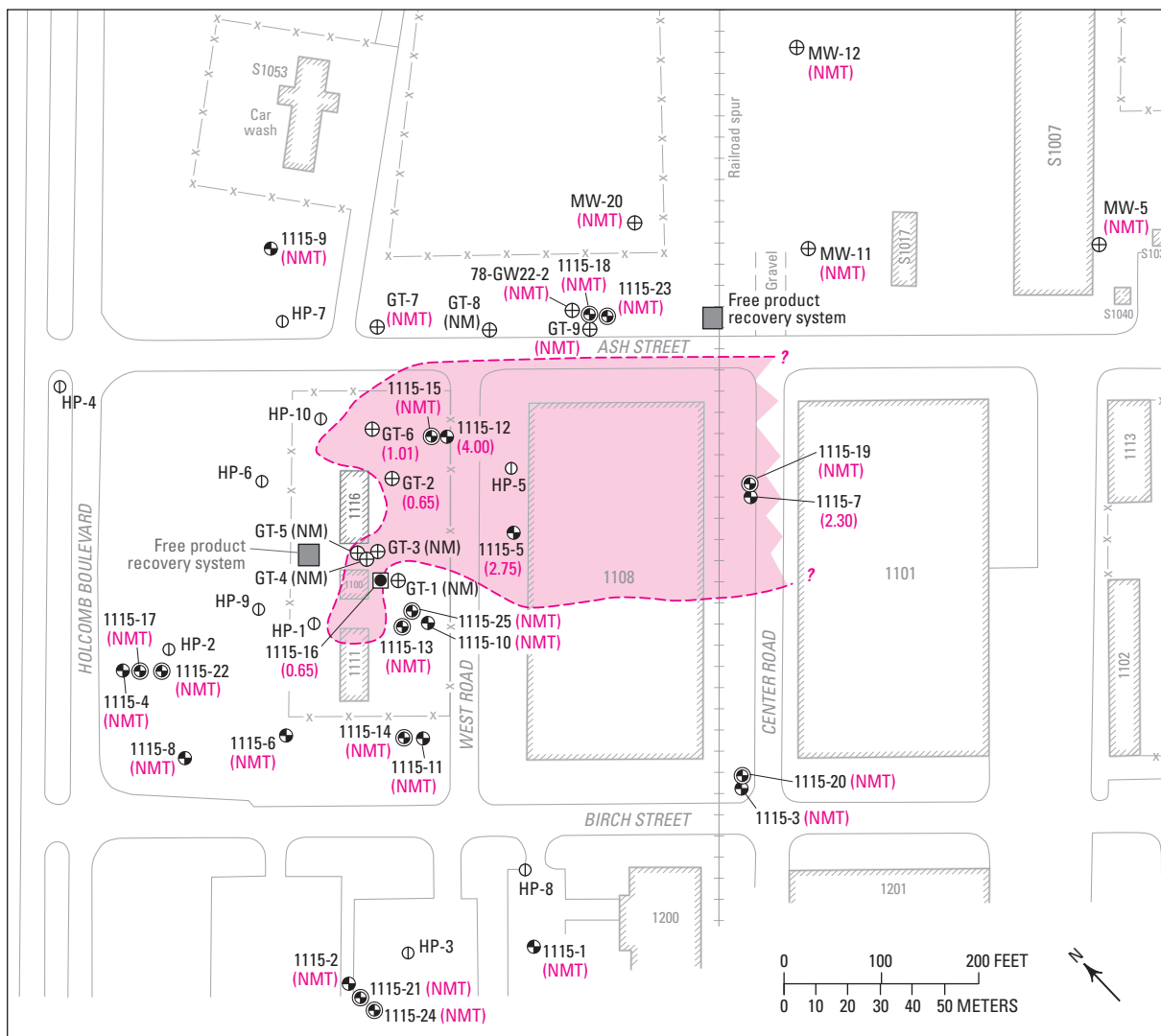


Figure D23. Monitor well and hydropunch locations and occurrence of free-phase hydrocarbon product at Underground Storage Tank Program Site Building 1115, November 1995, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Richard Catlin and Associates, Inc. 1998a).

EXPLANATION

Interpreted extent of free-phase product plume

NOTE:
1. Adapted from surveyed site map provided by Michael Underwood & Associates, RLS.

Site type and identifier

MW-20 ⊕ Existing type II well
 1115-8 ⊙ Type II well
 1115-15 ⊙ Type III well
 1115-16 ⊙ Pumping well
 HP-9 ⊕ Hydropunch

() Free product thickness, in feet, as of July 18, 1995; NMT, no measurable thickness; NM, not measured

Somewhat concurrent with investigations of groundwater contamination at UST Site Building 1115 were continuing investigations at the HPFF. During November 1995, an additional nine monitor wells were constructed open to the Brewster Boulevard aquifer system and were sampled for analysis (HPFF_MW01–HPFF_MW09). At about the same time, 20 hydropunch samples were collected for analysis from the Brewster Boulevard upper aquifer at various locations generally north and east of the former HPFF location (HPFF_HP01–HPFF_HP20) (Figures D20, D21, Tables D4–D7). Data from sample analyses at newly installed monitor wells and from hydropunch samples further refined the spatial extent of BTEX contamination at and in the vicinity of the HPFF. The center of mass of BTEX contamination in November 1995 was clearly established in the immediate vicinity of the fuel unloading facility, just east of the former HPFF tanks. Soil in the same area was described by SCS Engineers (1977) as saturated with petroleum and indicative of spillage during fuel transfers. A maximum benzene concentration of 16,600 µg/L was observed at the unloading facility at location HPFF_HP04. Total BTEX concentration at this location was 108,240 µg/L (Figure D21; Tables D4, D7). The benzene plume at this time extended generally west of the Hadnot Point tank farm area and the unloading facility toward Building 1101 (Figure D24). Plumes of other BTEX components followed a similar pathway (Richard Catlin and Associates, Inc. 1998b). Positive measurements of free-phase product thickness occurred in only six monitor wells during November 1995; all six of these wells are original wells established during the CERCLA investigation of IRP Site 22 and are in somewhat dispersed locations throughout the HPFF area. Free-phase thicknesses ranged from a trace to about 3.3 ft. At least part of the substantial reduction in free-phase thicknesses observed in IRP Site 22 wells between 1988 and 1995 can be attributed to operation of the extraction well network (IRP22_RW01–IRP22_RW04) (Richard Catlin and Associates, Inc. 1997c).

During the summer of 1997, continuing investigations of groundwater contamination at the HPFF resulted in the installation of 11 additional monitor wells, constructed open to either the Brewster Boulevard aquifer system (HPFF_MW14–HPFF_MW20) or the Tarawa Terrace aquifer (HPFF_MW10–HPFF_MW13) (Table D6). Sample collection at this time included data from all existing HPFF and Building 1115 monitor wells, as well as data from 3 of 32 direct push (DPT) locations and from several older IRP Site 22 and IRP Site 78 monitor wells. Also, by this time, investigators recognized that the BTEX component plumes, which had previously been recognized as individual plumes at the HPFF and Building 1115 areas, had probably coalesced into a single areally extensive plume. With respect to the coalesced benzene plumes (Figure D24), three centers of mass, where benzene concentrations exceeded 20,000 µg/L, were recognized: (1) in the immediate vicinity of the Hadnot Point tank farm, (2) northwest of the immediate tank farm area in the vicinity of a concrete loading ramp and the terminal points of several

railroad spur tracks, and (3) in the immediate vicinity and generally southeast of Buildings 1100 and 1115. Three centers of free-phase hydrocarbon mass were recognized at the same locations (Figure D25, Tables D4–D6).

During January to March 2000, 22 additional monitor wells (HPFF_MW21–HPFF_MW42) were constructed in conjunction with continuing assessments of groundwater contamination in the vicinities of the former HPFF and Buildings 1101 and 1115. Three monitor wells were also installed at this time near Building 1101 (Bldg1101_MW01–Bldg1101_W03). All of the additional wells were installed open to the Brewster Boulevard aquifer system (Table D6) (Catlin Engineers and Scientists 2000bc; UST Management Web Portal File #1185—“Well-construction records, 1101-1, 1101-2, 1101-3, Marine Corps Base, Camp Lejeune, North Carolina”). Additional monitor wells (HPFF_MW43–HPFF_MW72) were constructed beginning in October 2001 and ending during March 2002 (Catlin Engineers and Scientists 2002c). Nine of these wells were installed open to the Tarawa Terrace aquifer, five were constructed open to the Upper Castle Hayne aquifer, and the remainder were constructed open to the Brewster Boulevard aquifer system (Table D6). Analytical results from samples collected in these nine wells represent conditions following the onset of full-scale remediation of the combined HPFF and Building 1115 sites during March 1999 (CH2MHill 2001) and are only briefly described herein (Tables D4–D5). BTEX components occurred consistently and at relatively high concentrations in wells HPFF_MW22–HPFF_MW30. Benzene concentrations were greater than detection limits in each of these wells during January 2000, ranging from about 5 to 29,000 µg/L. BTEX components occurred somewhat less frequently in other additional wells. During March 2002, benzene concentrations occurred above detection limits in 15 wells, ranging from 6.0 µg/L in well HPFF_MW63 to 15,000 µg/L in well HPFF_MW72.

An aquifer test designed to better understand hydrogeologic conditions in the immediate vicinity of the former HPFF resulted in the construction of several additional monitor wells during March and April 2003 (HPFF_MW73–HPFF_MW77). Wells were constructed open to the Brewster Boulevard aquifer system and to the Tarawa Terrace aquifer (Table D6). Well HPFF_MW75, open to the Tarawa Terrace aquifer and located midway between the former HPFF and Building 1101, was used as the pumping well for the aquifer test and was pumped at an average rate of 30 gallons per minute for approximately 14 days (Figure D20) (Catlin Engineers and Scientists 2003c). This well was later used as a pumping well in order to contain contaminant plumes and to improve the efficiency of nearby extraction wells (Shaw Environmental, Inc. 2008b). The quantity of mass removed by well HPFF_MW75 was not reported.

During November 2003, monitor well (HPFF_MW78) was installed as part of the remediation and monitoring programs at the former HPFF and was constructed open to the Upper Castle Hayne aquifer–River Bend unit between

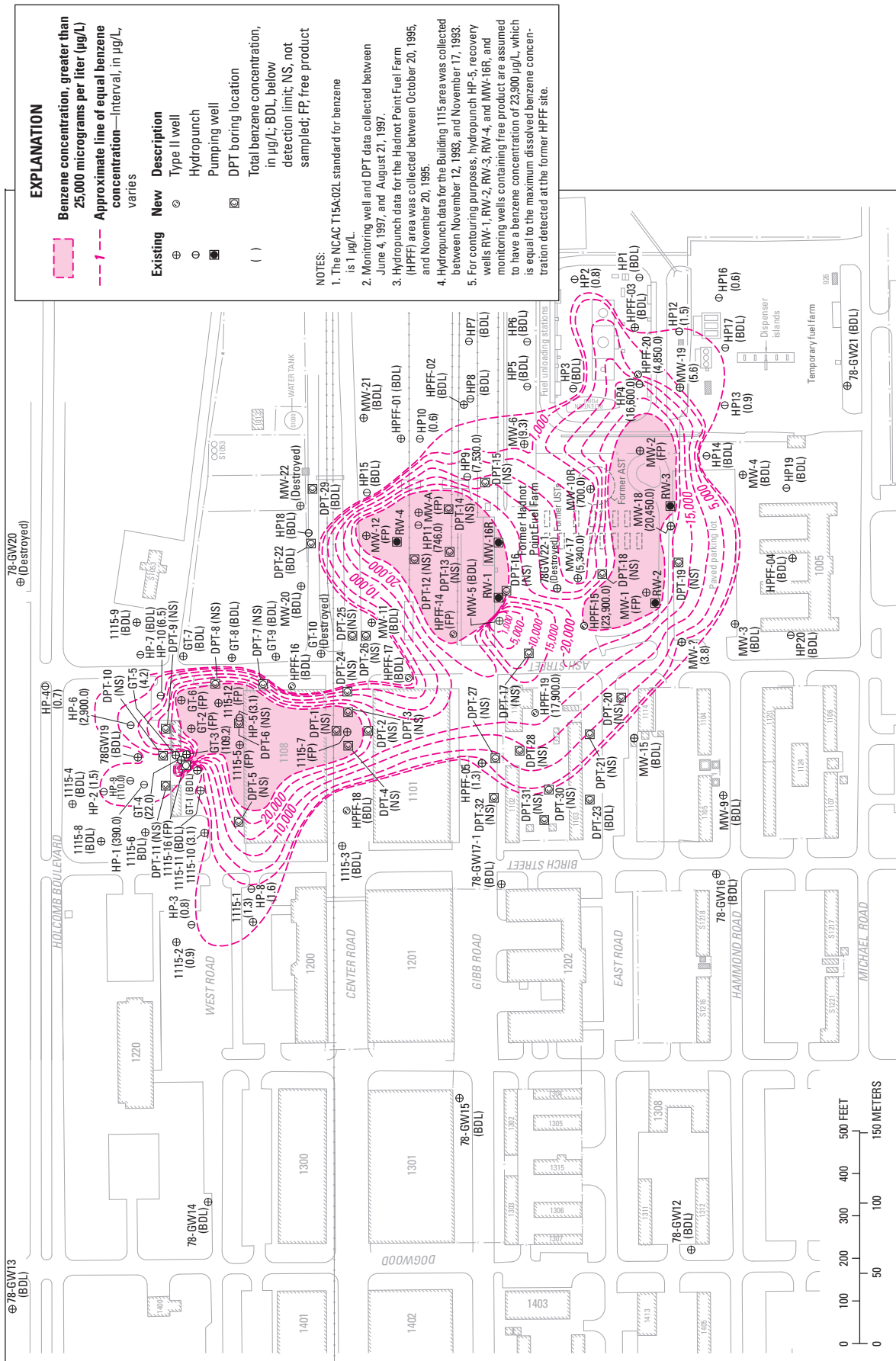


Figure D24. Monitor well, hydropunch, and direct push locations and benzene plume at Underground Storage Tank Program Site Hadnot Point Fuel Farm and Building 1115 area, November 1993–August 1997, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 1998b).

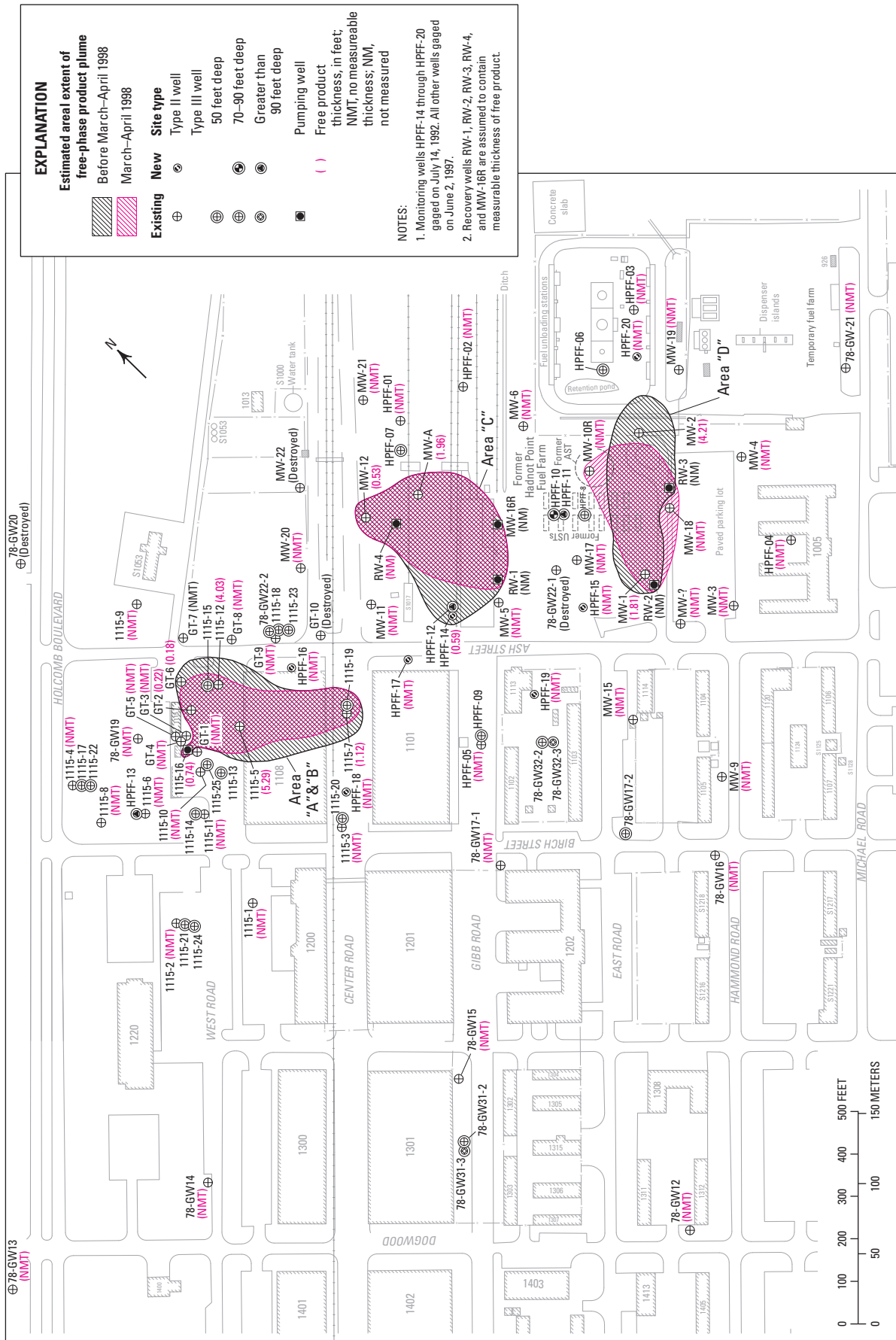


Figure D25. Monitor well locations and occurrence of free-phase hydrocarbon product at Underground Storage Tank Program Site Hadnot Point Fuel Tank and Building 1115 area, July 1992–June 1997, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 1998b).

139 and 159 ft bgs (Table D6) (Catlin Engineers and Scientists 2004h). This well was located just east of Birch Street between Gibb and Hammond Roads (Figure D4), in the general vicinity of monitor wells IRP78_GW32-2 and IRP78_GW32-3 (Figure D21), and was constructed to a depth similar to the open interval of well IRP78_GW32-3. Results of analyses of samples collected in well HPFF_MW78 are also similar to those reported for well IRP78_GW32-3 (Faye et al. 2010), indicating a persistent occurrence of BTEX components at considerable depth and ranging in concentration from 2.5 µg/L of benzene to 80 µg/L of xylenes. Samples were collected during November 2003 and October 2008 (Table D4).

The results of sample analyses derived from the construction of additional monitor wells provided sufficient information to construct approximate maps showing the distribution of benzene concentrations (plumes) within several geohydrologic units in the vicinity of the former HPFF and Building 1115 (Figures D26–D29) (Catlin Engineers and Scientists 2002c). The illustrations showing the configuration of benzene plumes were augmented by illustrations of vertical sections of benzene distributions in the subsurface (Figures D30–D34). Four sections are shown; three trending generally south to north (Figures D31–D33) and one trending generally northwest to southeast from the area of Holcomb Boulevard to the vicinity of Building 1305 (Figure D34). Sections *C–C'* and *D–D'* intersect in the immediate vicinities of the former HPFF and Building 1115. The zones of benzene occurrence shown in sections approximate the vertical extent to which benzene concentrations exceed 1.0 µg/L. Although full-scale remediation had been ongoing in the area of the former HPFF and Building 1115 for about 3 years at the time much of the data were collected to construct the plume and section illustrations (February–March 2002, July 2002), the distributions of benzene that are shown in Figures D31–D34 are the earliest representations that vertically differentiate the occurrence of any BTEX component.

The areal extent of the benzene plume within the Brewster Boulevard upper aquifer is shown in Figure D26, and two areas of substantial benzene concentration (>15,000 µg/L) are shown; one is just southeast of the former HPFF, and the other is in the immediate vicinity of Building 1114. The total extent of the plume encompasses an area from Holcomb Boulevard to just southeast of the former HPFF. Maximum width of the plume is about 800 ft.

Configuration of the benzene plume within the Brewster Boulevard lower aquifer is shown in Figure D27. The extent of the plume is substantially larger compared to conditions within the Brewster Boulevard upper aquifer, and corresponding maximum concentrations are smaller (>10,000 µg/L). Two lobes of relatively high benzene concentration are shown, one in the vicinity of the former HPFF and the other in the vicinity of Building 1115. These two locations also generally correspond to two of the three locations of high benzene concentration and free-phase product thickness shown in Figures D24–D25. Overall concentrations are substantially lower, however, compared

to those shown in Figures D24–D25, possibly as a result of natural attenuation and remediation. A third lobe of relatively high benzene concentration is shown to occur in the vicinity of Building 1101. The east-west extent of the benzene plume within the Brewster Boulevard lower aquifer is similar to the plume shown within the Brewster Boulevard upper aquifer (Figure D26). However, maximum width of the lower plume is greater than 2,000 ft.

The benzene plume within the Tarawa Terrace aquifer is shown in Figure D28 and closely resembles the plume within the Brewster Boulevard upper aquifer in extent and width. Relatively high concentrations, however, occur only in the vicinity of Building 1115 and apparently did not exceed 2,500 µg/L.

The smallest plume configuration is shown in Figure D29 and represents the approximate benzene distribution within the Upper Castle Hayne aquifer–River Bend unit. Maximum benzene concentrations within this plume occur somewhat west of the former HPFF in the same general area as the center lobe of relatively high benzene concentration and free-phase hydrocarbon thickness shown in Figures D24–D25. The maximum concentration in this lowermost benzene plume did not exceed 2,700 µg/L. Plume geometry was somewhat circular with a maximum width of about 750 ft.

Section illustrations showing the vertical distribution of benzene (Figures D30–D34) conform closely to the areal boundaries and vertical extent described for Figures D26–D29. Vertical continuity of benzene in the subsurface is shown to be nearly continuous in every section. With the exception of several relatively thin intervals, vertically downward migration of benzene appears to have occurred without major lateral diversion through a diverse and heterogeneous variety of carbonate and clastic lithologies. Of major interest to this study is the apparently continuous distribution of benzene from near land surface to depths of about 150 ft shown in sections *C–C'* and *D–D'* (Figures D30, D33–D34). That an LNAPL such as benzene could migrate to such a depth with such continuity is strongly indicative of advective transport caused by vertically downward hydraulic gradients in place for a substantial period of time and probably caused by the combined pumping influence of several nearby water-supply wells.

Concentrations of chlorinated alkenes greater than detection limits in monitor wells in the vicinity of the former HPFF occurred only infrequently and in relatively few wells. Concentrations of TCE and *cis*-1,2-DCE occurred most frequently, indicating that degradation pathways within the plumes of chlorinated alkenes were mostly complete. TCE concentrations were greatest in the vicinity of monitor wells HPFF_MW45, HPFF_MW47, and HPFF_MW76 and ranged from 39.5 µg/L in well HPFF_MW45 to 330 µg/L in well HPFF_MW47. PCE also occurred in well HPFF_MW47, ranging in concentration from an estimated 5.9 to 10.9 µg/L. Concentrations of *cis*-1,2-DCE greater than detection limits were also greatest in the vicinity of well HPFF_MW47, ranging from about 46 to 170 µg/L (Table D4). Concentrations of TCE and *cis*-1,2-DCE greater than detection

limits occurred at various times and in conjunction with BTEX components in wells HPFF_MW02, HPFF_MW05–HPFF_MW07, HPFF_MW09, HPFF_MW12, HPFF_MW20, HPFF_MW39, HPFF_MW57, HPFF_MW59, HPFF_MW70, and HPFF_MW73. Such occurrences indicate that substantial mixing of plumes of chlorinated alkenes and BTEX components occurred at the former HPFF and vicinity, as well as at Building 1115 and vicinity.

By April 1998, several remediation strategies were implemented, as previously proposed by a corrective action plan. Strategies were proposed in phases, beginning with the AFVR extraction of free-phase hydrocarbon product mentioned previously. Two AS/SVE and biosparge networks were installed during 1998 and 1999 and were designated as the Northwest Compound and Southeast Compound. The Northwest Compound was centered on Building 1115 and vicinity; the Southeast Compound was centered on the former tank farm (HPFF) area and vicinity. The Northwest Compound was composed of 5 AS wells open to a depth of 50 ft bgs (near the base of the Brewster Boulevard lower aquifer) with an associated SVE system, 12 biosparge wells open to a depth of 80 ft bgs (near the base of the Tarawa Terrace aquifer), and 4 biosparge wells open to a depth 100 ft (near the top of the Upper Castle Hayne aquifer–River Bend unit). The Southeast Compound was composed of 30 AS wells open to a depth of 50 ft bgs along with an associated SVE system and 10 biosparge wells open to a depth of 85 ft bgs (Catlin Engineers and Scientists 1998b). Both compounds were operational by March 1999 (CH2MHill 2001), and operations continue to the present day (2012), with minor interruptions for maintenance, infrastructure improvements, and data collection. A revised corrective action plan published in 2003 recommended that the existing AS/SVE and biosparge remediation networks be augmented by the construction of a bio-pulse sparging system open to a depth of 150 ft bgs (Catlin Engineers and Scientists 2003d). Between October 2005 and August 2006, 25 bio-pulse AS wells were constructed at regular intervals throughout the former HPFF–Building 1115 area, and several tests of the system were conducted beginning in November 2006. Several cycles of bio-pulse sparging events were completed during 2007 and 2008. Bio-pulse events were suspended after February 2008 pending evaluation of results (Shaw Environmental, Inc. 2009d). As of April 30, 2009, approximately 20,000 pounds of cumulative hydrocarbon mass had been recovered from the Northwest AS/SVE Compound; about 1,350,000 pounds were recovered from the Southeast AS/SVE Compound. Using a conversion factor of 6.3 pounds/gallon indicates that approximately 220,000 gal of hydrocarbon mass in the mobile phase were recovered from the subsurface of the former HPFF–Building 1115 area between March 1999 and April 2009. The volume of 65,000 gal of free-phase hydrocarbon product recovered using

the combined methods of AFVR, skimmers, and manual bailing (Table D9), when combined with the 220,000 gal recovered using AS/SVE methods, provides an estimate of total volume of mobile phase hydrocarbon product recovered of about 300,000 gal, as of April 2009. Using the ratios of 65 percent residual phase to 35 percent mobile phase provided by CH2MHill (2001), a minimum total hydrocarbon product loss to the subsurface from the HPFF and Building 1100 tanks is estimated to be about 860,000 gal.¹⁰

UST Site Michael Road Fuel Farm (MRFF)

The MRFF is located immediately adjacent to and north-east of the former HPFF, about 1 block northwest of Michael Road and within the northeastern part of the HPIA (Faye et al. 2010, Plate 1). The MRFF was constructed during 1990 to replace the fuel dispensing and storage functions previously assigned to the former HPFF and was activated during March 1991. Currently (2012) the fuel farm consists of nine ASTs with a combined capacity of 200,000 gal. Building 1070 is located at the MRFF. A leaking UST (Table D2) and related piping were removed from the MRFF site in September 2004. Soil samples were removed from the pipe-line trench, and several contained TPH concentrations greater than regulatory limits. These findings prompted the construction of a temporary monitor well. Groundwater collected from this well contained all BTEX components also at concentrations greater than regulatory limits. Subsequently, two permanent monitor wells were installed at the MRFF during March 2005 and open to the Brewster Boulevard aquifer system (MRFF_MW01 and MRFF_MW02). Well MRFF_MW02 replaced the temporary well within the tank cavity (Table D6). Samples from each well were collected following construction and development. Of the BTEX components, only ethylbenzene was detected in MRFF_MW02, at a concentration of about 1.1 µg/L (Table D4). The discovery of free-phase hydrocarbon product in well HPFF_MW02 during July 2010 caused concern that a possible heretofore unrecognized BTEX source might be located in the vicinity of the MRFF. Subsequent investigations, including the construction of additional monitor wells at the HPFF (not addressed herein), determined the free-phase source in HPFF_MW02 to be part of the original fuel loss at the HPFF (Catlin Engineers and Scientists 2005f, 2010ab; Sovereign Consulting, Inc. 2006g). No other occurrence of free-phase hydrocarbon product in the subsurface at the MRFF was indicated. Concentrations of chlorinated alkenes were not determined in samples from MRFF monitor wells.

¹⁰ Additional analyses and discussions pertinent to quantifying loss volume of hydrocarbon product at the HPFF and Building 1115 areas are provided in the Hadnot Point–Holcomb Boulevard Chapter A report and supplemental information texts that are part of the Chapter A report.

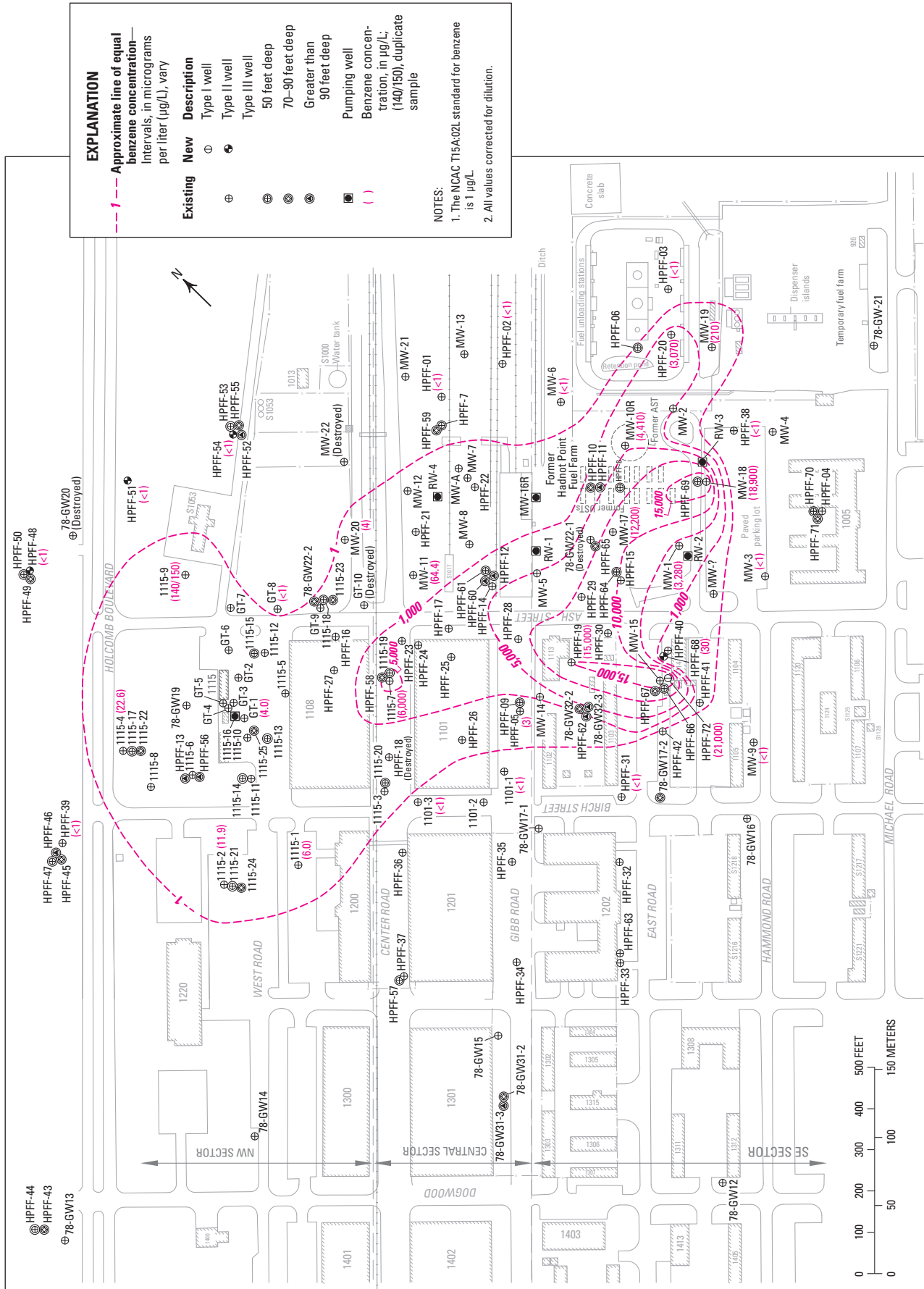


Figure D26. Monitor well locations and occurrence of benzene plume within the Brewster Boulevard upper aquifer at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, February–July 2002, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

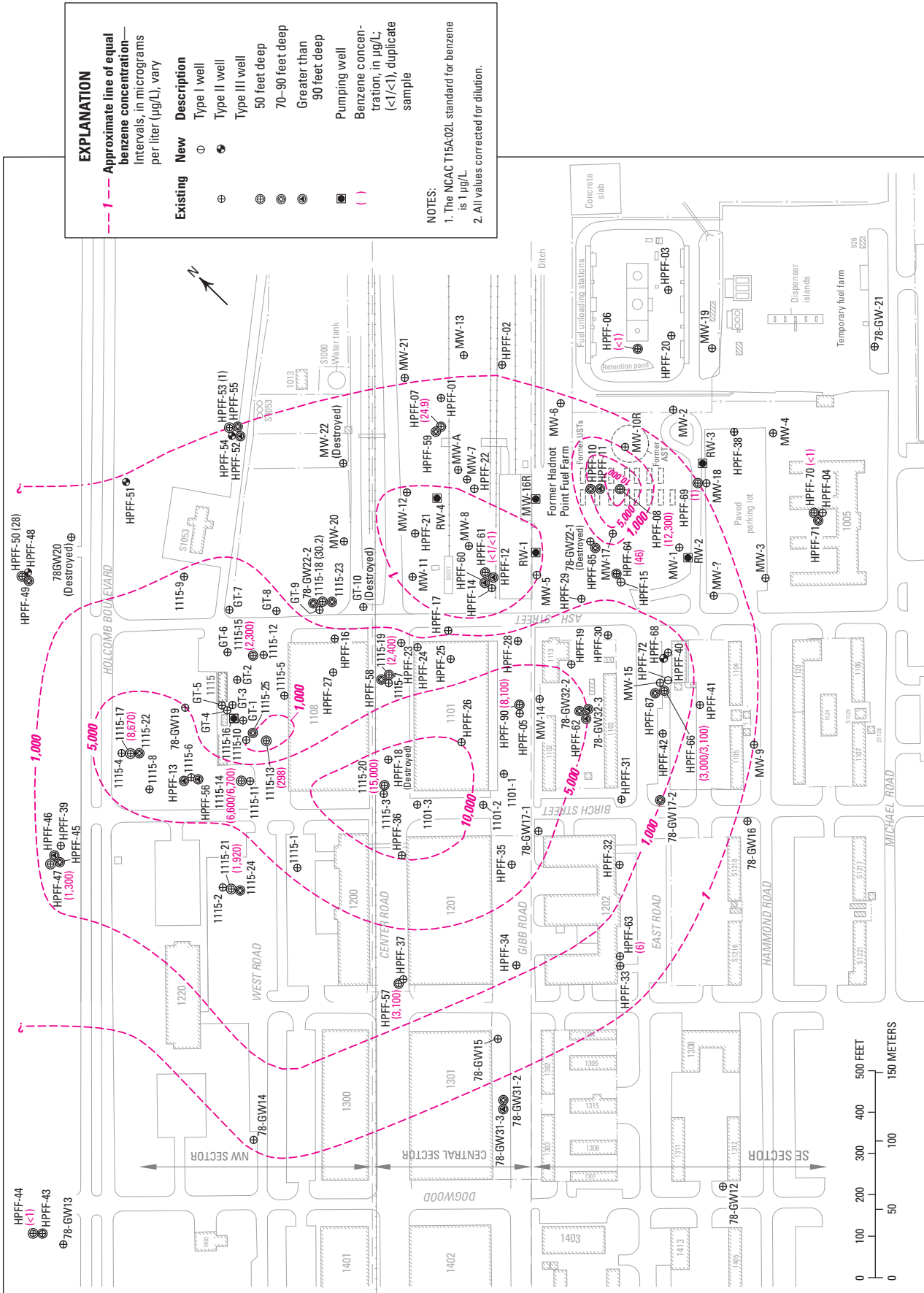


Figure D27. Monitor well locations and occurrence of benzene plume within the Brewster Boulevard lower aquifer at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, February-July 2002, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

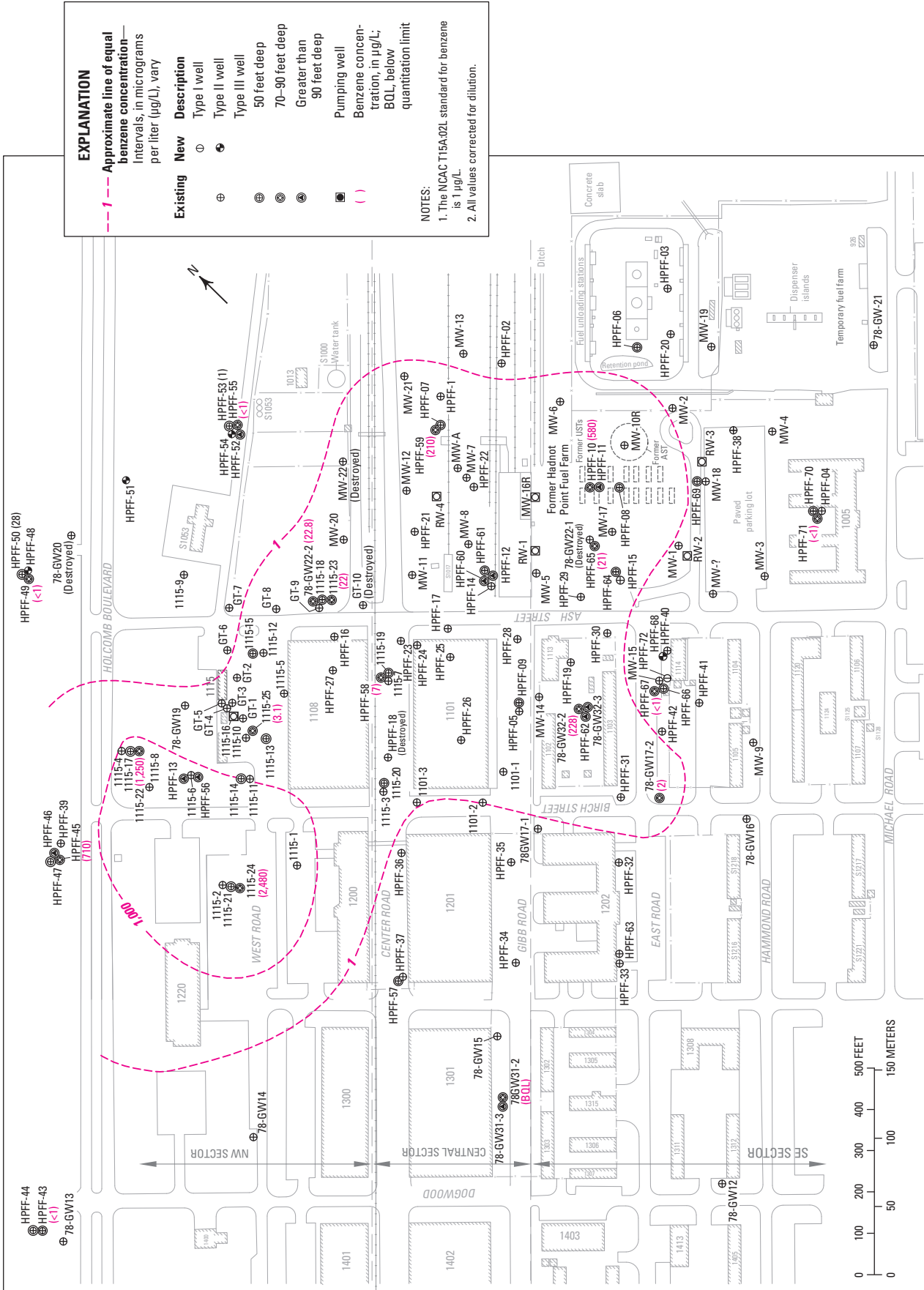


Figure D28. Monitor well locations and occurrence of benzene plume within the Tarawa Terrace aquifer at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, February–July 2002, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

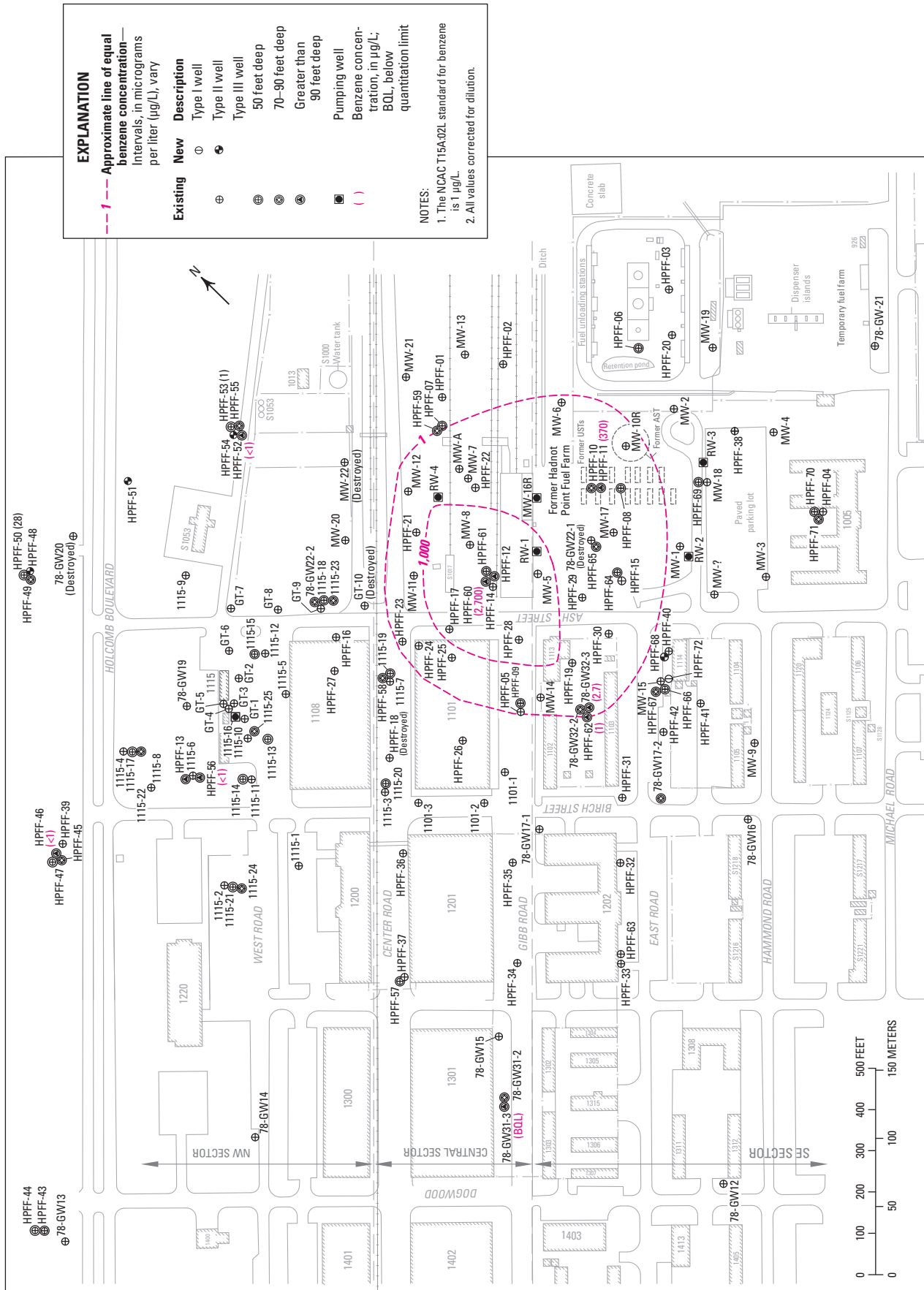




Figure D30. Lines of section at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

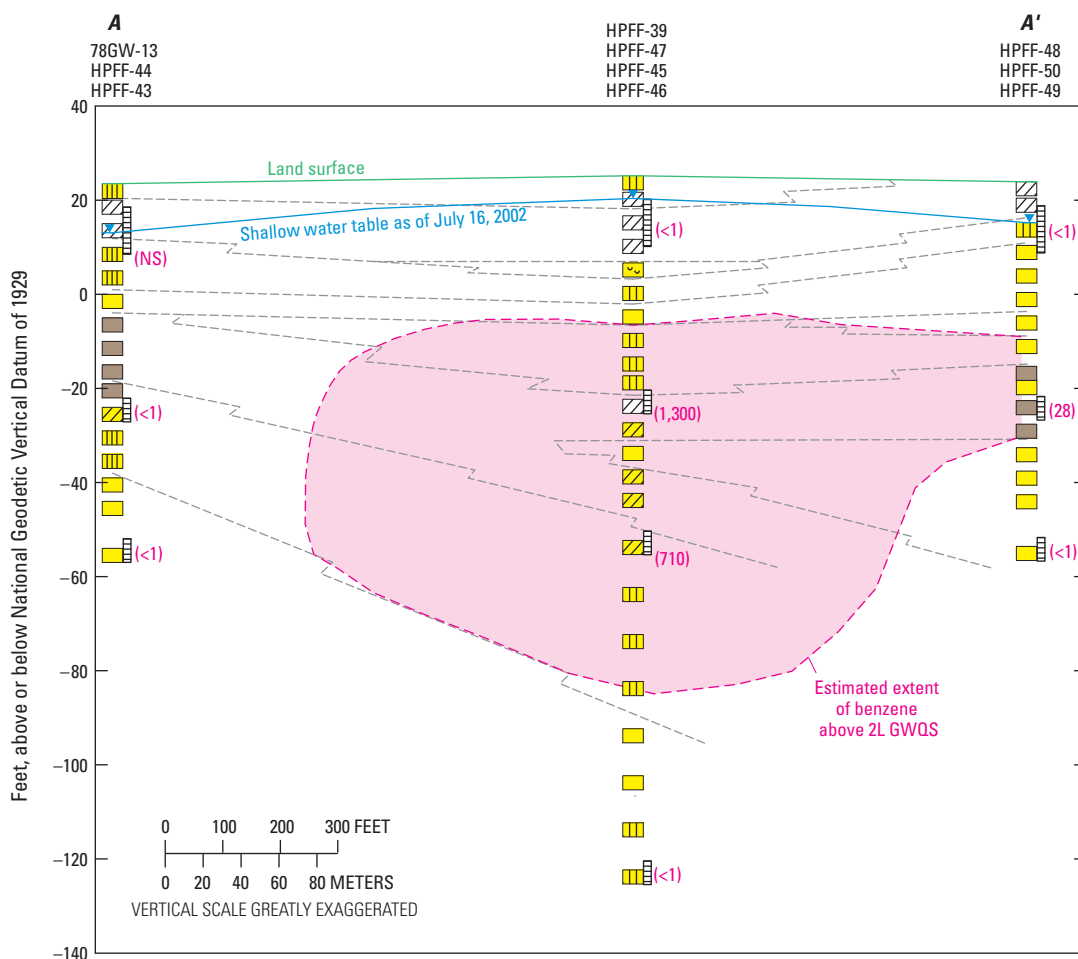


Figure D31. Subsurface distribution of benzene along section A–A’ at Under Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, February–July 2002, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

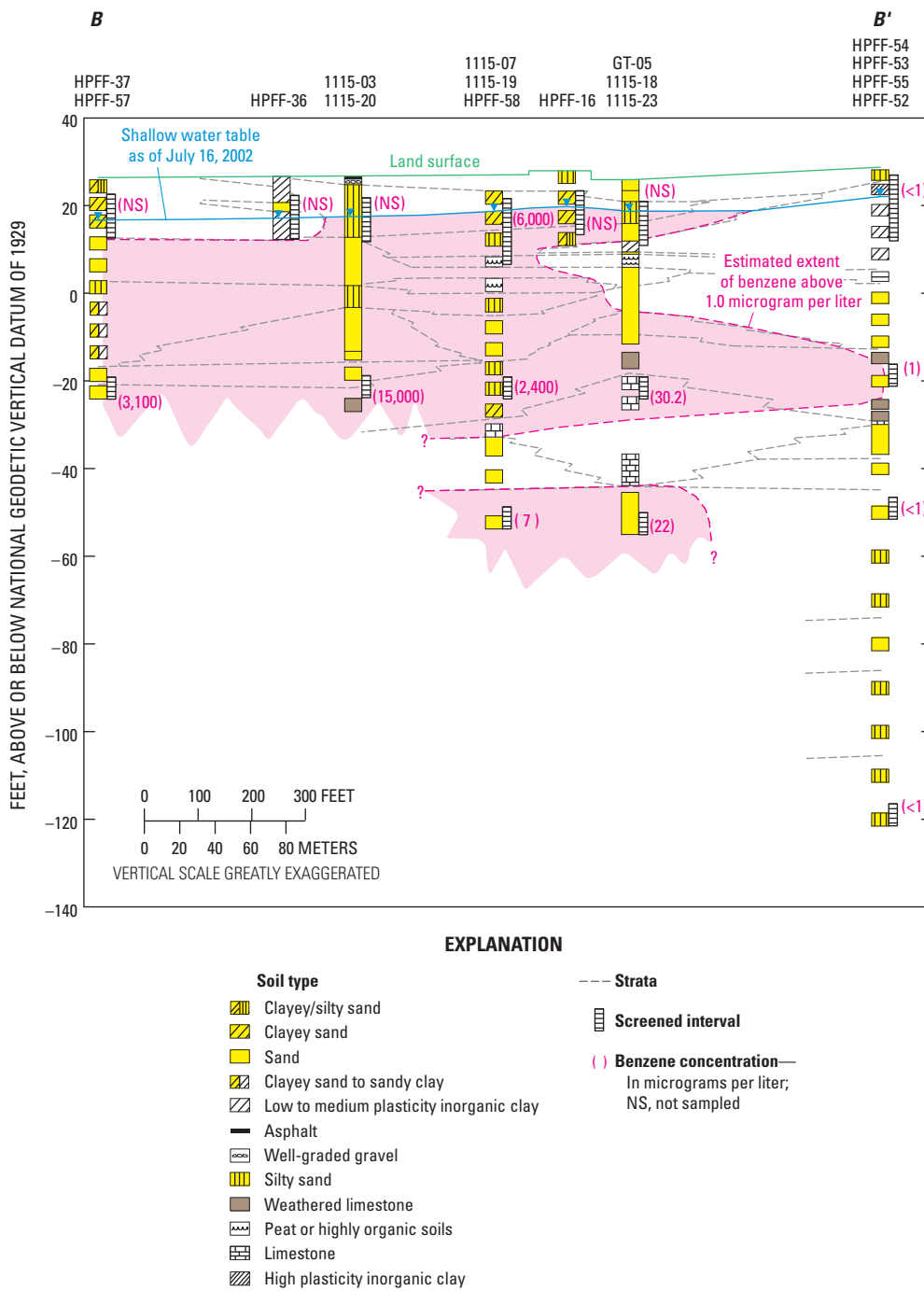


Figure D32. Subsurface distribution of benzene along section *B–B'* at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, February–July 2002, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

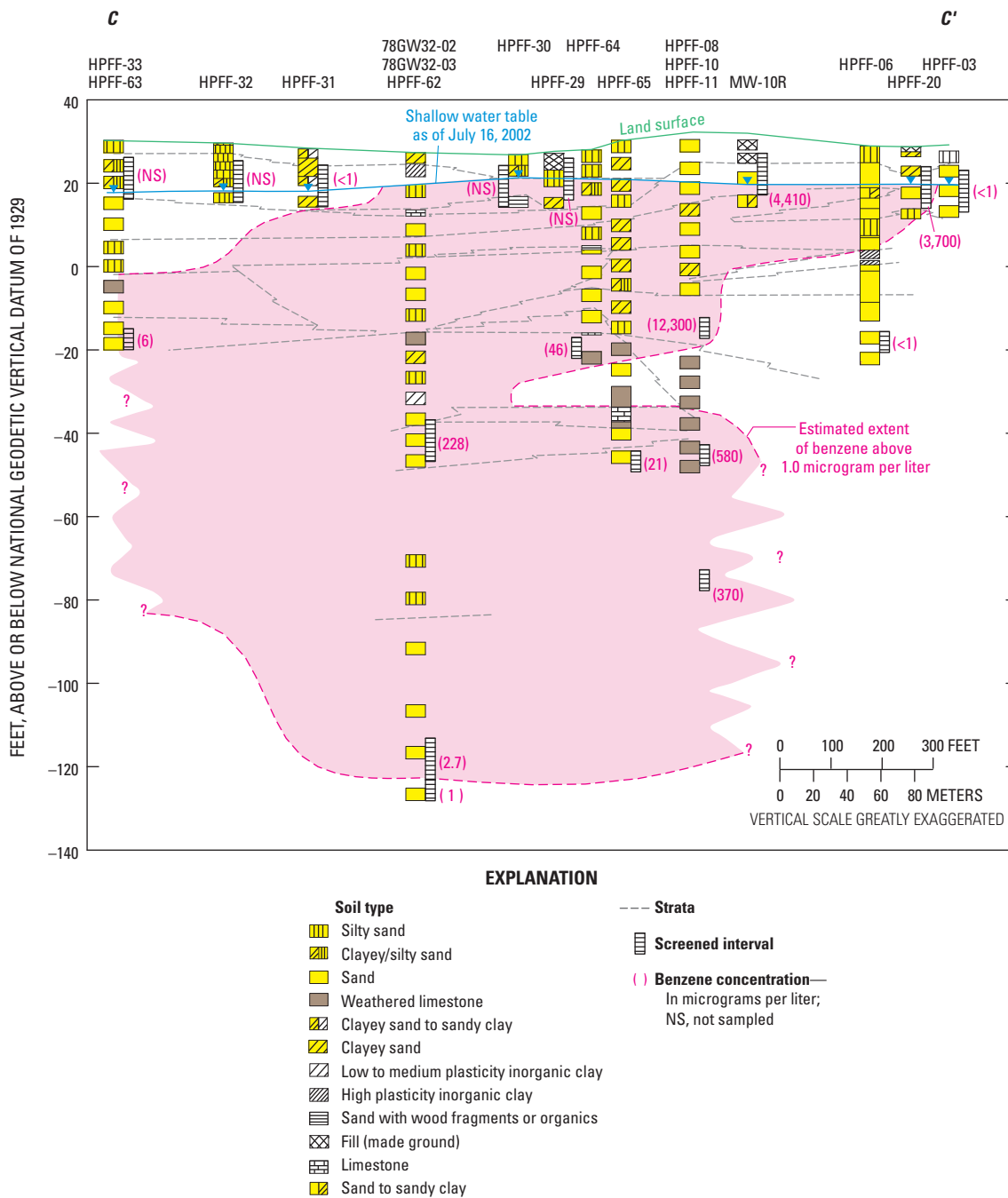


Figure D33. Subsurface distribution of benzene along section C-C' at Underground Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, March 2002, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

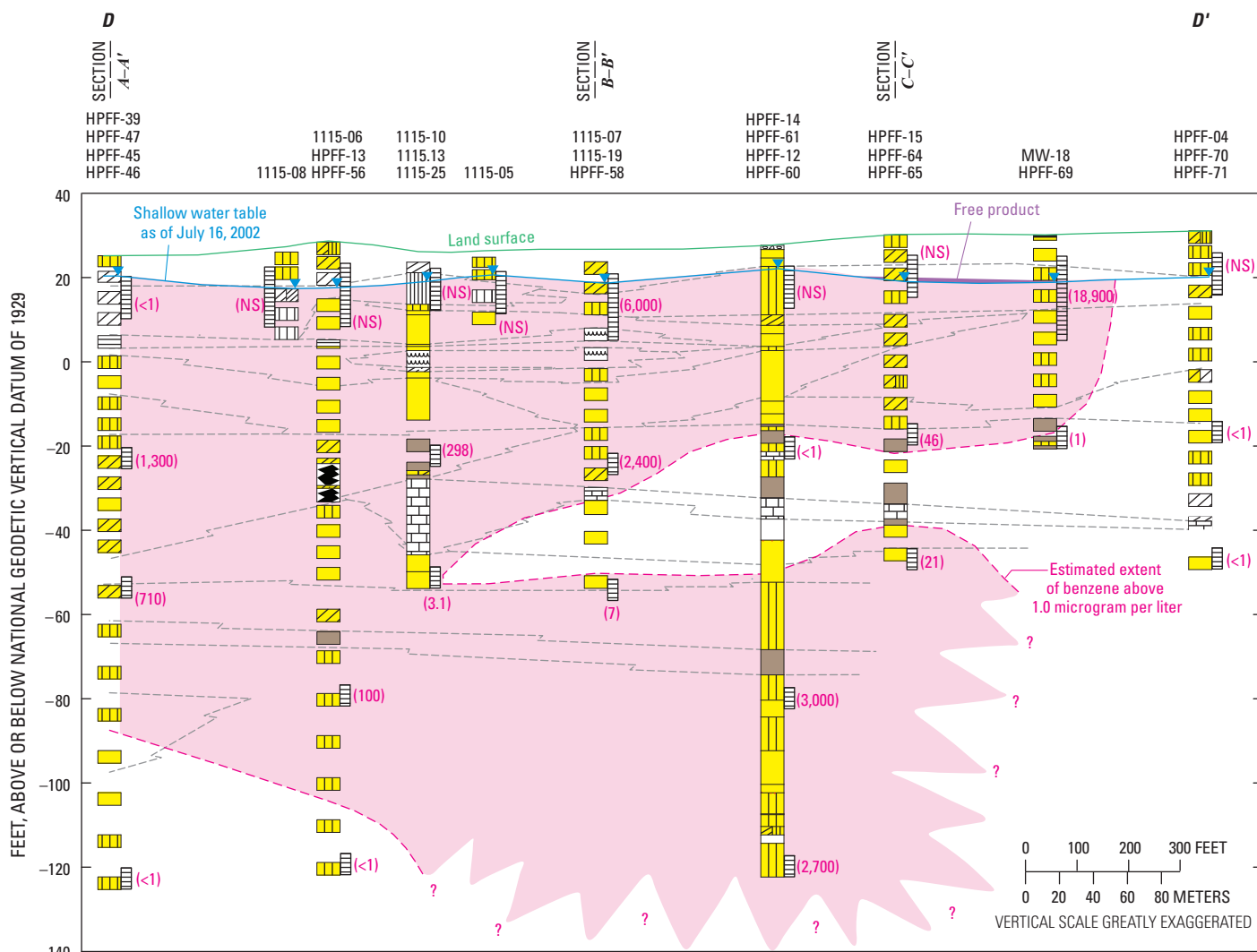


Figure D34. Subsurface distribution of benzene along section *D–D'* at Undergrad Storage Tank Program Sites Hadnot Point Fuel Farm and Building 1115 area, February–July 2002, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Catlin Engineers and Scientists 2002c).

Other BTEX Sources Within the Hadnot Point Industrial Area (HPIA)

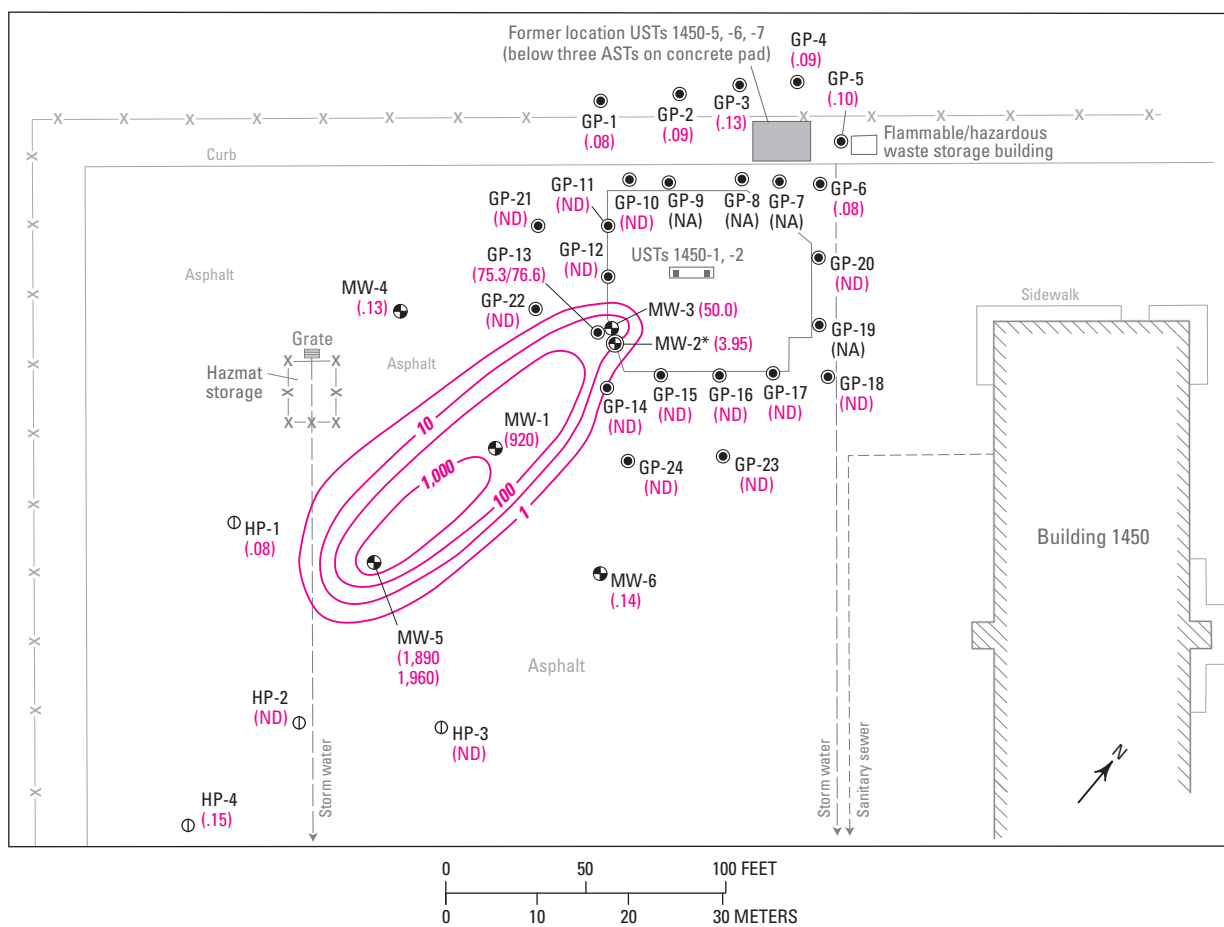
RCRA investigations of groundwater contamination occurred at numerous locations within the HPIA, and BTEX contamination of groundwater was noted at several building sites. Typically these investigations were short-term and did not result in long-term monitoring of groundwater conditions. In addition, monitor wells constructed during these investigations were invariably installed only within the Brewster Boulevard aquifer system, which thus precluded an evaluation of any downward vertical migration of BTEX components from the various BTEX source locations. The following sections of text are corresponding descriptions of groundwater contamination at Buildings 1106, 1450, 1502, and 1601 (Faye et al. 2010, Plate 1).

UST Site Building 1106

Building 1106 is located in the south-central part of the HPIA, immediately adjacent to and northwest of Michael Road and between the intersections of Michael Road with Ash and Birch Streets (Figures D4, D20–D21). The building is part of a hobby shop compound that also includes Buildings 1120 and 1124 and previously was used as a woodworking hobby shop. Current (2012) use is unknown. Groundwater contamination was suspected following the removal of UST 1106 (Table D2). UST 1106 was installed in January 1980 and was removed in September 1994. The tank was used to store waste oil accumulated from auto hobby shop activities and was located near the southeast corner of Building 1107, at or near the current location of tank S1128, shown on Figure D20. Evaluation of groundwater contamination was accomplished by collecting geoprobe samples at 16 locations in the vicinity of former UST 1106 during September 1996. Sample depth ranged from about 4 to 17 ft bgs but ranged from 10 to 12 ft bgs at most sample locations (Table D7). Concentrations of at least one BTEX component were detected in all sample locations, with the exception of Bldg1106_GP11, located about 10 ft southeast of the former UST location. Concentrations greater than detection limits were typically small and ranged only from about 0.05 µg/L of benzene to about 1.1 µg/L of xylenes. The maximum benzene concentration was about 0.13 µg/L, which occurred at location GP05 (Table D4). Free-phase hydrocarbon product was not observed at any sample location in the vicinity of Building 1106. Concentrations of chlorinated alkenes determined in the geoprobe samples were all below detection limits (Table D5) (Law Engineering and Environmental Services, Inc. 1997b).

UST Site Building 1450

Building 1450 is located in the southwestern part of the HPIA, generally within the quadrangle area southeast of Louis Road and one block southwest of Cedar Street (Figure D4). Building 1450 serves as a maintenance facility for military vehicles, and related facilities are used to store and dispense fuel. Groundwater contamination in the vicinity of Building 1450 was apparently associated with five USTs and related piping—UST 1450-1, UST 1450-2, UST 1450-5, UST 1450-6, and UST 1450-7 (Figure D35, Table D2)—all of which were installed in January 1981 when Building 1450 was constructed and were removed during September and December 1994. Investigations of groundwater contamination in the vicinity of Building 1450 began during July 1996 with the collection of samples at 40 geoprobe locations generally northwest and north of the building (Figure D35). With the exception of the sample collected at location Bldg1450_GP13, all concentrations of BTEX components at geoprobe locations were either less than 1.0 µg/L or below detection limits. At location Bldg1450_GP13, concentrations ranged from about 50 µg/L of ethylbenzene to 77 µg/L of benzene (Table D4). Geoprobe samples were collected between 18 and 20 ft bgs (Table D7). Information derived from the geoprobe sampling was used to locate three monitor wells constructed during August 1996 (Bldg1450_MW01–Bldg1450_MW03). Three additional monitor wells were constructed during October 1996 (Bldg1450_MW04–Bldg1450_MW06), another was constructed during March 1998 (Bldg1450_MW07), and the last one was constructed during August 1999 (Bldg1450_MW08) (Table D6). All wells were installed open to the Brewster Boulevard aquifer system. Analyses for BTEX component concentrations in samples collected during August and October 1998 from existing wells indicated the occurrence of one or more BTEX components greater than detection limits in each sample. The sample collected from well Bldg1450_MW03 contained the highest concentrations, ranging from 1,800 µg/L of ethylbenzene to 11,000 µg/L of toluene (Table D4). Free-phase hydrocarbon product was not observed at any sample location in the vicinity of Building 1450. Benzene concentration data were sufficiently complete to permit an approximate delineation of a benzene plume within an open storage and parking area northwest of Building 1450. The center of mass of the plume extended between monitor wells Bldg1450_MW01 and Bldg1450_MW05. The length of the plume was approximately 150 ft; maximum width was about 60 ft (Law Engineering and Environmental Services, Inc. 1997ae, 2000c) (Figure D35).



EXPLANATION

- 1 — **Approximate line of equal benzene concentration**— Intervals, in micrograms per liter (µg/L), vary
- Site type and identifier**
- MW-4 Type II (shallow) groundwater monitoring well
- MW-2 Type III (deep) groundwater monitoring well
- GP-22 Geoprobe sample point
- HP-2 Hydropunch
- () Benzene concentration, in µg/L; ND, not detected in sample; NA, not analyzed; 75.3/76.6, duplicate sample

NOTES:

1. 1450 is the prefix which precedes all monitoring wells, hydropunch, and geoprobe sample locations.
2. Geoprobe sample points and monitoring well MW-2 installed by Law, July and August 1996.
3. Monitoring wells MW-1 and MW-3 installed by NFE technologies, Inc., Cary, North Carolina, August 1996 (subcontractor to Law)
4. Monitoring wells MW-4 through MW-6 and hydropunch penetrometers installed by Law, October 1996.
5. Building 1450, dispenser island for USTs 1450-1 and 1450-2, geoprobe sample points, hydropunch sample points, and monitoring wells were the only points located in the field by a professional land surveyor. Other site features are approximate.
6. The North Carolina groundwater standard for benzene is 1 µg/L.
7. * Well screened below water table, groundwater sample concentration not mapped.

Figure D35. Monitor well, geoprobe, and hydropunch locations and benzene plume at Underground Storage Tank Program Site Building 1450, U.S. Marine Corps Base Camp Lejeune, North Carolina (modified from Law Engineering and Environmental Services, Inc. 1997e).

Concentrations of chlorinated alkenes were also determined in several geoprobe, hydropunch, and monitor well samples. With two exceptions, chlorinated alkene concentrations were not detected. A concentration of about 22 µg/L of PCE occurred in well Bldg1450_MW01 during August 1996. A concentration of 1.1 µg/L of TCE occurred in hydropunch sample Bldg1450_HP03 during October 1996 (Table D5).

Although groundwater contaminant conditions in the vicinity of Building 1450 represented a possible source of contaminants to water-supply wells in relatively close proximity, in all likelihood, groundwater contamination to the Hadnot Point WTP did not occur as a result of groundwater conditions in the vicinity of Building 1450. Building 1450 was constructed in 1981, and the fact that nearby supply wells HP-607 and HP-630 were abandoned before 1981 precludes the possibility of contaminant breakthrough at those wells. A third well, HP-608, was permanently shut down in 1984 and is located a radial distance of approximately 1,700 ft from the center of the benzene plume shown in Figure D35, also making any possibility of BTEX migration from Building 1450 to supply well HP-608 highly unlikely.

UST Sites Buildings 1502 and 1601

The southwest end of Building 1502 and the northeast end of Building 1601 are juxtaposed across Fir Street within the southwestern part of the HPIA (Figure D5). At Building 1502, four USTs were located at the northeast end of the building, a pair near each corner of the building (Table D2). One UST of each pair contained gasoline, the other diesel fuel, and each pair was connected to a fuel dispensing island through approximately 120 ft of piping. When the USTs were installed is unknown; however, the USTs apparently had been removed from service during the early 1970s and were no longer in use when removed during January 2001 (Law Engineering and Environmental Services, Inc. 2002b). Previously, during June 1995, a waste-oil storage tank was removed, also from the northeast end of Building 1502 (R.E. Wright Environmental, Inc. 1995d). A related part of this early removal was the construction of four monitor wells installed open to the Brewster Boulevard upper aquifer (Bldg1502_MW01 (old), Bldg1502_MW02 (old), Bldg1502_MW03, and Bldg1502_MW04) (Table D6). Samples collected in these wells during June 1993 contained

no concentrations of BTEX components greater than detection limits (Table D4). Additional monitor wells were constructed during November 2001 as part of a limited site assessment initiated following the removal of the four USTs during January 2001 [Bldg1502_MW01 (new)–Bldg1502_MW02 (new)] (Table D6). Samples collected in these monitor wells during December 2001 contained concentrations of all BTEX components greater than detection limits, with the exception of benzene. Concentrations of xylenes were greatest, ranging from 2,150 to 3,330 µg/L (Table D4). Toluene concentrations were least, ranging from 11 to 25 µg/L. No measurable thicknesses of free-phase hydrocarbon product were observed in any Building 1502 monitor well. Samples collected during June 1995 and December 2001 were also analyzed for concentrations of chlorinated alkenes. No concentrations of chlorinated alkenes were detected greater than detection limits (Table D5) (Law Engineering and Environmental Services, Inc. 2002b).

Building 1601 was constructed during the 1940s and was originally used as a garage for motor vehicles and a vehicle maintenance facility. As such, the facility probably contained substantial fuel storage capacity as well as fuel dispensing capabilities and was at or near the terminus of a 4-inch fuel supply line from the former HPFF. This pipeline supplied gasoline to four USTs located on the northeast side of Building 1601, facing Building 1502. These USTs possibly have been abandoned in place. The pipeline was removed during December 2000 (U.S. Marine Corps Camp Lejeune 2003a).

A 1,600-gal UST used to store waste oil was removed from the vicinity of Building 1601 during June 1993 (Table D2). RCRA investigations of groundwater contamination at Building 1602 were limited to the collection of 16 water samples using direct push technology during October 1996. All sample locations were adjacent to the northeast side of Building 1601 and were within the open space between Buildings 1502 and 1601. Sample analyses indicated toluene concentrations greater than detection limits in every sample and corresponding concentrations of ethylbenzene and xylenes in several samples. Benzene concentrations were less than detection limits in all samples. Concentrations of BTEX components ranged from about 0.6 µg/L of ethylbenzene to 27 µg/L of toluene (Table D4). Sources of the BTEX are possibly leaks from the abandoned USTs or discharge to the subsurface from the abandoned

pipeline. No measurable thickness of free-phase hydrocarbon product was observed during direct push sample collection. With the exception of vinyl chloride, concentrations of PCE, TCE, and related degradation products greater than detection limits were determined in numerous samples. TCE and *cis*-1,2-DCE were detected in every sample, frequently at high concentrations. Concentrations of TCE ranged from 5.0 µg/L to about 1,100 µg/L. The range of *cis*-1,2-DCE concentrations was similar. PCE concentrations were greater than detection limits in three samples, ranging from less than 1 to about 15 µg/L. No concentrations of vinyl chloride occurred greater than detection limits (Table D5) (Richard Catlin and Associates, Inc. 1997a). Similar concentrations of BTEX components and chlorinated alkenes were observed during IRP investigations in well IRP78_GW09-1 (old), open to the Brewster Boulevard aquifer system and located near the northeast corner of Building 1601 and across Fir Street from Building 1502 (Faye et al. 2010). During four sampling events between January and May 1987, concentrations of BTEX components greater than detection limits in well IRP78_GW09-1 (old) ranged from 1.100 µg/L of ethylbenzene to 4,500 µg/L of xylenes. In the same samples, concentrations of chlorinated alkenes ranged from 740 µg/L of *trans*-1,2-DCE to 6,100 µg/L of TCE. The source of the chlorinated alkenes is unknown but was probably related to vehicle maintenance activities, an early use of Building 1601. In addition, the occurrences of PCE, TCE, and related degradation products in the vicinity of Building 1601 are probably part of a large plume of chlorinated solvents documented during IRP Site 78 investigations in the southwestern part of the HPIA as early as 1996 and which probably contributed, as well, to the occurrences of TCE and *trans*-1,2-DCE observed in water-supply well HP-608 between December 1984 and November 1986 (Faye et al. 2010, Figure C16, Table C7). The radial distance from former monitor well IRP78_GW09-1 (old) to the former location of supply well HP-608 is about 900 ft.

A BTEX plume centered on the area between Buildings 1502 and 1601 is shown in CH2MHill Federal Group, Ltd, Baker Environmental, Inc., and CDM Federal Programs Corp. (2003, Figure 2–11). The plume extends generally southwest from the center of mass. Length of the plume is approximately 300 ft; maximum width is about 170 ft. Data used to delineate the plume were collected between April and October 2001.

Discussion

The accuracy of coordinates assigned to data-collection locations listed in Tables D6 and D7 of this report are subject to uncertainty largely caused by the scale and rendition of published maps and aerial photograph mosaics used to georeference location coordinates. In general, with respect to the use of maps, maps included in reports later in time were more accurate than maps included in reports published earlier in time. Such differences often resulted in as many as six coordinate pairs determined for a single data-collection location. Efforts to “ground truth” data-collection locations were not part of this project’s methods and scope. Regardless, many monitor wells listed herein have been destroyed, and geoprobe and hydropunch locations could only have been recovered for a short time following data collection. Such activities occurred several years to perhaps a decade or longer prior to the beginning of this project. Accordingly, determining the most accurate location to assign to a data-collection location was based generally on a qualitative evaluation of map accuracy, such as date of publication, and the cultural and topographic detail apparent in the map base. Given these limitations of map quality and accuracy, monitor well, geoprobe, and hydropunch location coordinates listed in several tables in this report are probably accurate to within 100 ft at most locations and possibly accurate to within 25 ft or 50 ft at many locations.

Construction of monitor wells and the methods and techniques used for collection of water samples possibly affected the analytical results and thus the characterization of in-situ groundwater quality described herein. The majority of monitor wells constructed for this project were open to the shallow Brewster Boulevard aquifer system and were designed to include the water table within the open interval of the well. Screen openings at monitor wells ranged from 5 to 25 ft in length and typically ranged from 10 to 20 ft in length. Screen lengths of this dimension are probably appropriate when groundwater contaminants are completely mixed within the aquifer volume sampled by the well. However, LNAPLs, such as free-phase hydrocarbon product, typically accumulate at or near the water table at variable thicknesses. Monitor wells were typically purged of 3 to 6 casing volumes prior to sampling. In wells where screen openings are 10 ft or more and include the water table, such methods may have resulted in dilution of LNAPLs within the sampled interval and a poor characterization of LNAPL concentrations within the subsurface. Similar arguments also apply to DNAPLs, such as PCE, which accumulate at depth, possibly below the open interval of the monitor well.

Summary and Findings

Findings of this study are summarized in Table D10. UST sites within the Hadnot Point–Holcomb Boulevard Study area are characterized by the occurrences of a plume or plumes of BTEX components, free-phase hydrocarbon product in monitor wells, and whether or not one or more BTEX components were detected in monitor wells open to the Tarawa Terrace aquifer or in units below the Tarawa Terrace aquifer. In addition, water-supply wells near the UST site are identified. Whether or not concentrations of BTEX components greater than detection limits have been determined in samples from the supply well is also indicated.

A major part of Table D10 and sections of this text are dedicated to discussions of groundwater contamination by BTEX components at several locations within the HPIA. Of these, the most pervasive contamination, by far, in terms of areal extent, depth of occurrence below ground surface, and levels of contaminant concentration, occurs in the area generally delimited by the former HPFF and Building 1115. The earliest estimates of the areal extent of the free-phase hydrocarbon product in this area was 11,000 or 12,000 ft². The extent of the earliest representation of the coalesced plumes from the vicinities of the HPFF and Building 1115 was many times larger (Figure D24). Depth of occurrence bgs of BTEX components extended to at least 145–150 ft in the vicinity of the HPFF (Figure D29; Table D4, well HPFF_MW60). Concentrations of BTEX components in monitor wells open to the Brewster Boulevard aquifer system were determined as early as July 1984 and exceeded 15,000 µg/L. Concentrations of BTEX components in samples collected as late as January 2000 exceeded 50,000 µg/L (Table D4, wells HPFF_MW28 and HPFF_MW29). With respect to the occurrence of BTEX components in supply wells, BTEX contamination in the vicinity of Building 1115 is a likely source of benzene determined in samples from water-supply well HP-602 during 1984 (Faye et al. 2010, Table C8). As of April 2009, approximately 300,000 gal of free-phase and mobile hydrocarbon product had been recovered from the subsurface at the HPFF–Building 1115 area. Other locations of groundwater contamination by BTEX components within the HPIA include the vicinities of Buildings 1613 and 900 and a significant area of contamination between Buildings 1502 and 1601. Groundwater in several of these areas is substantially contaminated not only with BTEX components but also with chlorinated alkenes, such as TCE.

Substantial contamination of groundwater by BTEX components also occurred elsewhere within the Hadnot Point–Holcomb Boulevard study area. In the vicinity of Building 645, concentrations of BTEX components within the Tarawa Terrace aquifer were as high as 17,700 µg/L in 1994 and as high as 13,900 µg/L in the Upper Castle Hayne aquifer–River

Bend unit during March 2007. Near Building 820, concentrations of BTEX components exceeded 10,000 µg/L in many monitor wells at various times and frequently exceeded 20,000 µg/L. The total BTEX concentration in well Bldg820_PW01, an extraction well, exceeded 157,000 µg/L during December 1992. Similarly, in the Midway Park area, in the vicinity of Building LCH4015, concentrations of BTEX components in groundwater of the Brewster Boulevard lower aquifer exceeded 10,000 µg/L in several wells.

Results of RCRA investigations at several other UST sites where contamination of groundwater by BTEX components appeared substantial were not discussed in detail herein because site locations were relatively far removed from water-supply wells. At Building 21 and vicinity, in the southern part of the study area near New River (Faye et al. 2010, Plate 1), concentrations of BTEX components greater than detection limits in several monitor wells open to the Brewster Boulevard aquifer system ranged from 1.0 µg/L to 10,000 µg/L during May 1992 (Table D4). Similar contamination, but at smaller concentrations, occurred during November 1991 at and in the vicinity of Building 728, on the southern shore of Wallace Creek (Faye et al. 2010, Plate 1) (Table D4). The high concentrations of PCE and TCE measured in monitor well Bldg1817_MW01, located immediately southeast of the HPIA, are also worthy of note and indicate that a major source of chlorinated alkenes possibly occurs in that general vicinity. With these exceptions, results of other RCRA investigations of groundwater contamination summarized herein in Tables D4–D7 indicate little or only limited groundwater contamination by BTEX components or chlorinated alkenes.

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Table D10. Summary of BTEX contaminant conditions at selected RCRA investigation sites and occurrences of BTEX components in nearby water-supply wells, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[BTEX, benzene, toluene, ethylbenzene, xylenes; RCRA, Resource Conservation and Recovery Act; N/A, data not available]

Site name ¹	BTEX component plume, yes or no?	BTEX components in Tarawa Terrace aquifer or below, yes or no?	Free-phase product in monitor well(s), yes or no?	Nearest water-supply well(s) ¹	BTEX components in water-supply wells, yes or no? ⁴
Building 45	yes	yes	yes	HP-704	no
Building 645	yes	yes	no	HP-643	no
				HP-644	no
				HP-645	yes
				HP-646	no
				HP-647	no
Building 820	yes	yes	yes	HP-607 (new)	no
				HP-622	N/A
				HP-623	no
Building 900 ²	yes	N/A	no	HP-634	no
Building 1106 ²	no	N/A	no	HP-607	N/A
				HP-630	N/A
Building 1450 ²	yes	N/A	no	HP-607	N/A
				HP-630	N/A
Building 1502 ²	yes ³	N/A	no	HP-608	yes
Building 1601 ²	yes ³	N/A	no	HP-608	yes
Building 1613 ²	yes	N/A	yes	HP-603	no
Building FC251	yes	N/A	no	HP-25	N/A
				HP-655	no
Building LCH4015	yes	yes	no	LCH-4009	no
Building LCH4022	yes	N/A	yes	LCH-4009	no
Building SLCH4019	yes	no	no	LCH-4009	no
Hadnot Point Fuel Farm, Building 1115 ²	yes	yes	yes	HP-602	yes
Michael Road Fuel Farm ²	no	N/A	no	HP-602	yes

¹ See Faye et al. 2010 (Plate 1) for site locations

² Located at the Hadnot Point Industrial Area

³ CH2MHill Federal Group, Ltd., Baker Environmental, Inc., and CDM Federal Programs Corp. 2003

⁴ See Faye et al. 2010 (Tables C8, C10)

References¹¹

- Agency for Toxic Substances and Disease Registry (ATSDR). Public Health Assessment for U.S. Marine Corps Base Camp Lejeune Military Reservation, Camp Lejeune, Onslow County, North Carolina. Atlanta, GA: U.S. Department of Health and Human Services; 1997. Report No. NC6170022580.
- ARM Environmental Services, Inc. Initial Site Assessment Report, UST Closure by Removal, 1-5000 Gallon Gasoline Tank, 1-10,000 Gallon Diesel Tank, Building 1815/S1813-1,2, Camp Lejeune, Jacksonville, NC; 1995a (UST Management Web Portal file #642).
- ARM Environmental Services, Inc. Initial Site Assessment Report, UST Closure by Removal, 1-5000 Gallon Gasoline Tank, 1-10,000 Gallon Diesel Tank, Building 1841/S1840-3&4, Camp Lejeune, Jacksonville, NC; 1995b (UST Management Web Portal file #603).
- ARM Environmental Services, Inc. Initial Site Assessment Report, UST Closure by Removal, 1-550 Gallon Waste Oil Tank, 1-250 Gallon Waste Oil Tank, Building 1607-1,2, Camp Lejeune, Jacksonville, NC; 1995c (UST Management Web Portal file #614).
- ARM Environmental Services, Inc. Initial Site Assessment Report, UST Closure by Removal, 1-5000 Gallon Waste Oil Tank, Building H-19-3, Camp Lejeune, Jacksonville, NC; 1995d (UST Management Web Portal file #619).
- ATEC Environmental Consultants, Inc. Underground Storage Tank (UST) Site Check Investigation Report, Building H-28, Camp Lejeune Marine Corps Base, Jacksonville, North Carolina; 1992a. Contract No.: N62470-90-D-7665 (UST Management Web Portal file #761).
- ATEC Environmental Consultants, Inc. Underground Storage Tank (UST) Site Check Investigation Report, Equipment and Maintenance Shop, Building 45, UST S-941-2, Camp Lejeune Marine Corps Base, Jacksonville, North Carolina; 1992b. Contract No.: N62470-90-D-7665 (UST Management Web Portal file #730).
- ATEC Environmental Consultants, Inc. Underground Storage Tank (UST) Site Check Investigation Report, Waste Water Treatment Plant, Building 21, UST 21.1, Camp Lejeune Marine Corps Base, Jacksonville, North Carolina; 1992c. Contract No.: N62470-90-D-7665 (UST Management Web Portal file #36).
- Baker Environmental, Inc. Final Basis of Design Report for the Hadnot Point Industrial Area Shallow Aquifer Groundwater Treatment System, Marine Corps Base, Camp Lejeune, North Carolina; 1993a. Contract Task Order 0134, Contract No.: N62470-92-B2255 (CERCLA Administrative Record file #1518).
- Baker Environmental, Inc. Final Effluent Study, Installation Restoration and Underground Storage Tank Sites, Marine Corps Base, Camp Lejeune, North Carolina, Draft; 1993b. Contract No.: N62470-89-D-4814 (CERCLA Administrative Record file #144).
- Baker Environmental, Inc. Final Site Assessment Report, Underground Storage Tank System 21.1, Building 21, Wastewater Treatment Plant, MCB Camp Lejeune, North Carolina; 1993c. Contract Task Order 0110, Contract No.: N62470-89-D-4814 (UST Management Web Portal file #45).
- Baker Environmental, Inc. Final Treatability Study for the Hadnot Point Industrial Area Shallow Aquifer, Marine Corps Base Camp Lejeune, Jacksonville, North Carolina; 1993d. Contract Task Order 0017, Contract No.: N62470-89-D-4814 (CERCLA Administrative Record file #1503).
- Baker Environmental, Inc. Final Corrective Action Plan, Building 21, Wastewater Treatment Plant, Marine Corps Base Camp Lejeune, North Carolina; 1994a. Contract Task Order 0264, Contract No.: 62470-89-D-4814 (UST Management Web Portal file #39).
- Baker Environmental, Inc. Final Corrective Action Plan, Building H-28, Marine Corps Base Camp Lejeune, North Carolina; 1994b. Contract Task Order 0263, Contract No.: 62470-89-D-4814 (UST Management Web Portal file #571).
- Baker Environmental, Inc. Semiannual Monitoring Report, Operable Unit No. 1 (Site 78), Marine Corps Base Camp Lejeune, North Carolina, Reporting Period January 1998–June 1998; 1998a. Contract Task Order 0367, Contract No.: N62470-89-D-4814 (CERCLA Administrative Record file #2304).
- Baker Environmental, Inc. Semiannual Monitoring Reports, Operable Unit No. 1 (Sites 24 and 78), Marine Corps Base Camp Lejeune, North Carolina, Reporting Period July 1997–December 1997; 1998b. Contract Task Order 0367, Contract No.: N62470-89-D-4814 (CERCLA Administrative Record file #1977).
- Baker Environmental, Inc. Final Five-Year Review, Marine Corps Base Camp Lejeune, North Carolina; 1999. Contract No.: N62470-89-D-4814 (CERCLA Administrative Record file #2332).
- Baker Environmental, Inc. and CH2M Hill Inc. Annual Monitoring Report, Operable Unit 1 (Site 78), Marine Corps Base Camp Lejeune, North Carolina, Reporting Period August 2001–December 2002; 2002a. (CERCLA Administrative Record file #3273).

¹¹Certain documents have been provided to ATSDR by the Department of the Navy (Headquarters Marine Corps, Eastern Area Counsel Office, and Marine Corps Base Camp Lejeune) under terms of "For Official Use Only" (FOUO) documents. Some of these documents may contain partial or complete redactions and some documents are not releasable under the terms of FOUO. For copies of the aforementioned documents, readers are referred to the U.S. Department of the Navy.

- Baker Environmental, Inc. and CH2M Hill, Inc. Final Remedial Investigation, Operable Unit No. 19, Site 84/ Building 45 Area, Marine Corps Base Camp Lejeune, North Carolina, Volume I; 2002b. Contract Task Order 0219, Contract No.: N62470-95-D-6007 (CERCLA Administrative Record file #3268).
- Baker Environmental, Inc. and CH2M Hill, Inc. Final Remedial Investigation, Operable Unit No. 19, Site 84/ Building 45 Area, Marine Corps Base Camp Lejeune, North Carolina, Volume II; 2002c. Contract Task Order 0219, Contract No.: N62470-95-D-6007 (CERCLA Administrative Record file #3269).
- Barnes Electric. Report for UST 1775 Tank #1, Closure/ Change-In-Service, Replace Underground Storage Tanks, 1700/1800 Areas at the Marine Corps Base, Camp Lejeune, North Carolina; 1995a. Contract No.: N62470-92-C-8264 (UST Management Web Portal file #582).
- Barnes Electric. Report for UST 1854 Tank #1, Closure/ Change-In-Service, Replace Underground Storage Tanks, 1700/1800 Areas at the Marine Corps Base, Camp Lejeune, North Carolina; 1995b. Contract No.: N62470-92-C-8264 (UST Management Web Portal file #581).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank Well Installation and Monitoring Limited Site Assessment, 10 UST Sites, Marine Corps Base Camp Lejeune, North Carolina, Draft; 1997. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #20070802_010).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank Comprehensive Site Assessment, Buildings S-2633, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1998a. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #508).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank Corrective Action Plan For Soil and Ground Water Remediation via Aggressive Fluid/Vapor Recovery, Soil Vapor Extraction, Air Sparging, Biosparging, and Natural Attenuation/Degradation at the Hadnot Point Fuel Farm/ Building 1115, Marine Corps Base Camp Lejeune, North Carolina; 1998b. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #456).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Limited Site Assessment—Phase I (No Further Action), Building PT-37, Marine Corps Base Camp Lejeune, North Carolina, 1999a. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #368).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Limited Site Assessment—Phase I (No Further Action), Building S-688, Marine Corps Base Camp Lejeune, North Carolina; 1999b. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #359).
- Catlin Engineers and Scientists. HPFF/Building 1101 Monitoring Data through March 29, 2000, Marine Corps Base Camp Lejeune, North Carolina; 2000a, Contract No.: N62470-95-D-6009 (UST Management Web Portal files #668, #404).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank, Additional Site Assessment, Hadnot Point Fuel Farm/Building 1101, Volumes I & II, Marine Corps Base Camp Lejeune, North Carolina, Final; 2000b. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #666).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank, Additional Site Assessment, Hadnot Point Fuel Farm/Building 1101, Volumes I & II, Marine Corps Base Camp Lejeune, North Carolina, Draft; 2000c. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #747).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST), Soil Assessment Report and Request for “No Further Action” Status, Building PT-37, Marine Corps Base Camp Lejeune, North Carolina, Final; 2000d. Contract No.: N62470-95-D-6009 (UST Management Web Portal File #369).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST), Soil Assessment Report and Request for “No Further Action” Status, Building S-688, Marine Corps Base Camp Lejeune, North Carolina, Final; 2000e. Contract No.: N62470-95-D-6009 (UST Management Web Portal File #358).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST), Soil Assessment Report and Request for Site Closure, Building S-688, Marine Corps Base Camp Lejeune, North Carolina, Draft; 2000f. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #518).
- Catlin Engineers and Scientists. LUST Soil Assessment, Work and Safety Plan, Building 1932, Diesel and Gasoline USTs, Marine Corps Base Camp Lejeune, North Carolina; 2000g. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #175).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Limited Site Assessment—Phase I (No Further Action) for Building H-31, #2 Fuel Oil USTs, Marine Corps Base Camp Lejeune, North Carolina; 2001a. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #384).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I—Limited Site Assessment and Request for No Further Action Status, Building 1804, Marine Corps Base Camp Lejeune, North Carolina; 2001b. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #196).

References

- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment for 333-B, Marine Corps Base Camp Lejeune, North Carolina; 2001c. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #725).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment, Work and Safety Plan, Building H-31, Diesel USTs, Marine Corps Base Camp Lejeune, North Carolina; 2001d. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #484).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Soil Assessment and Request for “No Further Action” Status, Building 1932, Marine Corps Base Camp Lejeune, North Carolina; 2001e. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #101).
- Catlin Engineers and Scientists. Well Sampling Report, Hadnot Point Fuel Farm, Volumes I & II, Marine Corps Base Camp Lejeune, North Carolina; 2001f, Contract No.: N62470-95-D-6009 (UST Management Web Portal file #468).
- Catlin Engineers and Scientists. Characterization of Subsurface Free Product Pathways, Hadnot Point Fuel Farm Area, Marine Corps Base Camp Lejeune, North Carolina; 2002a. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #386).
- Catlin Engineers and Scientists. Final Leaking Underground Storage Tank Site Assessment—Gauging All Wells at the Hadnot Point Fuel Farm, 2001 Event, Marine Corps Base Camp Lejeune, Jacksonville, North Carolina; 2002b. Contract No.: N62470-95-D-6009 (UST Management Web Portal File #435).
- Catlin Engineers and Scientists. Hadnot Point 2002 Well Gauging, Sampling, and Additional Well Installation Report, Hadnot Point Fuel Farm, Marine Corps Base Camp Lejeune, Jacksonville, North Carolina, Volumes I & II; 2002c. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #370, #202027_CSA_REV).
- Catlin Engineers and Scientists. Identification, Correlation, and Assimilation of Organic Subsurface Soils, Hadnot Point Fuel Farm, Volumes I & II, Marine Corps Base Camp Lejeune, North Carolina; 2002d. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #677, #201130_ORG_SOILS).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3311, Marine Corps Base Camp Lejeune, North Carolina; 2002e. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #465).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3322, Marine Corps Base Camp Lejeune, North Carolina; 2002f. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #120).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3326, Marine Corps Base Camp Lejeune, North Carolina; 2002g. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #131).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3330, Marine Corps Base Camp Lejeune, North Carolina; 2002h. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #129).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3332, Marine Corps Base Camp Lejeune, North Carolina; 2002i. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #130).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3340, Marine Corps Base Camp Lejeune, North Carolina; 2002j. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #208).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3343, Marine Corps Base Camp Lejeune, North Carolina; 2002k. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #228).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for UST PP-3354, Marine Corps Base Camp Lejeune, North Carolina; 2002l. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #227).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for Building NH-100 USTs-101, -102, -103 and -104, Marine Corps Base Camp Lejeune, North Carolina; 2003a. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #719).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for FC40-3, Marine Corps Base Camp Lejeune, North Carolina; 2003b. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #116).
- Catlin Engineers and Scientists. Project management files for PP-3358, Marine Corps Base Camp Lejeune, North Carolina; 2003c. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #1199).
- Catlin Engineers and Scientists. Revised Corrective Action Plan (CAP) for Hadnot Point Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina; 2003d. Contract No.: N62470-01-D-3009 (UST Management Web Portal File #418).

- Catlin Engineers and Scientists. Soil Assessment Report for PP-3326, Marine Corps Base Camp Lejeune, North Carolina; 2003e. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #459, #PP-3326_SAR).
- Catlin Engineers and Scientists. Soil Assessment Report for PP-3330, Marine Corps Base Camp Lejeune, North Carolina; 2003f. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #460).
- Catlin Engineers and Scientists. Soil Assessment Report for PP-3332, Marine Corps Base Camp Lejeune, North Carolina; 2003g. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #466).
- Catlin Engineers and Scientists. Soil Assessment Report for PP-3350, Marine Corps Base, Camp Lejeune, North Carolina; 2003h. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #PP-3350_SAR).
- Catlin Engineers and Scientists. Remedial Action Optimization and Revised Corrective Action Plan, Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2004a. Contract No.: N62470-01-D-3009 (UST Management Web Portal File #BLDG_645_REMEDIAL_ACTION_OPTIMIZATION).
- Catlin Engineers and Scientists. Remedial Action Optimization and Revised Corrective Action Plan, Building 820, Marine Corps Base Camp Lejeune, North Carolina; 2004b. Contract No.: N62470-01-D-3009 (UST Management Web Portal File #203063_820_OPTIMIZATION).
- Catlin Engineers and Scientists. Remedial Action Optimization and Revised Corrective Action Plan, Building 900, Marine Corps Base Camp Lejeune, North Carolina; 2004c. Contract No.: N62470-01-D-3009 (UST Management Web Portal File #203063_900_OPTIMIZATION).
- Catlin Engineers and Scientists. Remedial Action Optimization and Revised Corrective Action Plan, Building 1613, Marine Corps Base Camp Lejeune, North Carolina; 2004d. Contract No.: N62470-01-D-3009 (UST Management Web Portal File #203063_1613_OPTIMIZATION).
- Catlin Engineers and Scientists. Remedial Action Optimization and Revised Corrective Action Plan, Building LCH-4015, Marine Corps Base Camp Lejeune, North Carolina; 2004e. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #203063_LCH-4015_OPTIMIZATION).
- Catlin Engineers and Scientists. Report of Findings for Soil and Free-Phase Product Assessment, Building LCH-4015, Marine Corps Base Camp Lejeune, North Carolina; 2004f. Contract No.: N62470-01-D-3009 (UST Management Web Portal File #ROF_LCH-4015-4034).
- Catlin Engineers and Scientists. Soil Assessment Report for Building H-30, Marine Corps Base Camp Lejeune, North Carolina; 2004g. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #H-30_FINAL_SOIL_ASSESSMENT_REPORT).
- Catlin Engineers and Scientists. Summary of Bio-Pulse Sparge Pilot Test, Hadnot Point Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina; 2004h. Contract No. N62470-01-D-3009 (UST Management Web Portal file #HPFF_BIO-PULSE_SPARGE_PILOT_TEST_REPORT).
- Catlin Engineers and Scientists. Additional Sampling Report, Building H-19, Marine Corps Base Camp Lejeune, North Carolina; 2005a. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #204055_H_19_ASR).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for FC 40-3, Marine Corps Base Camp Lejeune, North Carolina; 2005b. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #204079_FC40-3_ROF).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3311, Marine Corps Base Camp Lejeune, North Carolina; 2005c. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #204079_PP-3311_ROF).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3322, Marine Corps Base Camp Lejeune, North Carolina; 2005d. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #204079_PP-3322_ROF).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3340, Marine Corps Base Camp Lejeune, North Carolina; 2005e. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #204079_PP-3340_ROF).
- Catlin Engineers and Scientists. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report for Michael Road Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina; 2005f. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #204100-MRFF_PHASE_I_LSA).
- Catlin Engineers and Scientists. Soil and Groundwater Sampling Report of Findings for PP-3343, Marine Corps Base Camp Lejeune, North Carolina; 2005g. Contract No.: N62470-010D-3009 (UST Management Web Portal file #204079_PP-3343_ROF).
- Catlin Engineers and Scientists. Soil and Groundwater Sampling Report of Findings for PP-3354, Marine Corps Base Camp Lejeune, North Carolina; 2005h. Contract No.: N62470-010D-3009 (UST Management Web Portal file #204079_PP-3354_ROF).

References

- Catlin Engineers and Scientists. Soil Assessment Report for Building 900, Marine Corps Base Camp Lejeune, North Carolina; 2005i. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #SAR_BLDG_900).
- Catlin Engineers and Scientists. Building 820, Natural Attenuation Modeling, Marine Corps Base Camp Lejeune, North Carolina; 2006a (Leaking Underground Storage Tank Program File #ILM00450).
- Catlin Engineers and Scientists. Quarterly Groundwater Monitoring Report, Site H-28, Marine Corps Base Camp Lejeune, North Carolina, Revision 0; 2006b. Contract No.: N62470-030D-4000 (UST Management Web Portal file #Quarterly_GW_MONITORING_REPORT_SITEH28_REV0_2-4-05).
- Catlin Engineers and Scientists. Remedial Action Optimization and Revised Corrective Action Plan Addendum Report, Building 820, Marine Corps Base Camp Lejeune, North Carolina; 2006c. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #RAO_820).
- Catlin Engineers and Scientists. Annual Management Report, MCB Camp Lejeune, UST Management Program, Year 2006 (January 2006 through December 2006); 2007a. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #Final_UST_MANRPT_YEAR2006).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3311, Marine Corps Base Camp Lejeune, North Carolina; 2007b. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3311_ROF_FINAL).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3326, Marine Corps Base Camp Lejeune, North Carolina; 2007c. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3326_ROF_FINAL).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3330, Marine Corps Base Camp Lejeune, North Carolina; 2007d. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3330_ROF_FINAL).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3332, Marine Corps Base Camp Lejeune, North Carolina; 2007e. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3332_ROF_FINAL).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3340, Marine Corps Base Camp Lejeune, North Carolina; 2007f. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3340_ROF_FINAL).
- Catlin Engineers and Scientists. Groundwater Sampling Report of Findings for PP-3343, Marine Corps Base Camp Lejeune, North Carolina; 2007g. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3343_ROF_FINAL).
- Catlin Engineers and Scientists. Report of Findings with Site Closure Request for PP-3322, Marine Corps Base Camp Lejeune, North Carolina; 2007h. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3322_ROF_CLOSURE_FINAL).
- Catlin Engineers and Scientists. Soil and Groundwater Sampling Report of Findings for PP-3354, Marine Corps Base Camp Lejeune, North Carolina; 2007i. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #PP3354_ROF_FINAL).
- Catlin Engineers and Scientists. Additional Site Assessment for Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2008. Contract No.: N62470-05-D-6200 (UST Management Web Portal file #645_Addl_SiteAssess).
- Catlin Engineers and Scientists. Additional Soil Assessment, Marine Corps Base Camp Lejeune North Carolina; 2009a. Contract No.: N62470-05D6200 (UST Management Web Portal file #LCH4015_ASA).
- Catlin Engineers and Scientists. Final Annual Groundwater Monitoring Report 2008–2009, Building 1613, Marine Corps Base Camp Lejeune, North Carolina; 2009b. Contract No. N40085-06-D-7006 (UST Management Web Portal File #Final_AMRCATLIN_Bldg1613).
- Catlin Engineers and Scientists. Site Assessment Building 1114, Hadnot Point Fuel Farm Area, Marine Corps Base Camp Lejeune, North Carolina; 2009c. Contract No.: N62470-05D6200 (UST Management Web Portal file #1114_HPFF_SA).
- Catlin Engineers and Scientists. Initial Assessment Report for Michael Road Fuel Farm at Former Hadnot Point Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina; 2010a. Contract No.: N40085_09_D-3235 (UST Management Web Portal file #MRFF_AT_HPFF_IAR).
- Catlin Engineers and Scientists. Michael Road Fuel Farm-Additional Monitoring Well, Marine Corps Base Camp Lejeune, North Carolina; 2010b. Contract No.: N40085-09-D-3235 (UST Management Web Portal file #MRFF_NOV2010_ADDL_WELL).
- Catlin Engineers and Scientists. PP-3343—Report of Findings (Final), Marine Corps Base Camp Lejeune, North Carolina; 2011. Contract No.: N40085-09-D-3235 (UST Management Web Portal file #PP3343_ROF_Jan2011).

- CH2MHill. Hadnot Point Fuel Farm/Building 1101 Remediation Assessment Report, Marine Corps Base Camp Lejeune, North Carolina; 2001. Contract No.: N62470-95-D-6007 (UST Management Web Portal file #670).
- CH2MHill Federal Group, Ltd., Baker Environmental, Inc., and CDM Federal Programs Corp. Final Pilot Study Project Plans, Site 78, Operable Unit 1, Marine Corps Base Camp Lejeune, North Carolina; 2003. Contract No.: N62470-95-D-6007 (CERCLA Administrative Record file #3242).
- CLHDW CDR, Camp Lejeune Historic Drinking Water Consolidated Document Repository, 1199–10257 (not consecutively numbered), provided on electronic media to ATSDR, For Official Use Only (FOUO) documents, U.S. Marine Corps Base Camp Lejeune, Environmental Management Division; March 2011.
- CLW, Camp Lejeune Water Documents, 0001–8761 (not consecutively available), provided on DVD format, in Maslia ML, Sautner JB, Faye RE, Suárez-Soto RJ, Aral MM, Grayman WM, Jang W, Wang J, Bove F, Ruckart PZ, Valenzuela C, Green JW Jr, and Krueger AL. Analyses of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water at Tarawa Terrace and Vicinity, U.S. Marine Corps Base Camp Lejeune, North Carolina: Historical Reconstruction and Present-Day Conditions—Chapter A: Summary of Findings. Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2007.
- Costas K, Knorr RS, and Condon SK. A Case-Control Study of Childhood Leukemia in Woburn, Massachusetts: The Relationship Between Leukemia Incidence and Exposure to Public Drinking Water. *The Science of the Total Environment*. 2002; 300:23–35.
- Dewberry and Davis. Engineering Study 94–09, Sampling of Lot 803, Marine Corps Base Camp Lejeune, North Carolina; 1994 (UST Management Web Portal file #153).
- Eastern Environmental, Inc. Underground Storage Tank Closure Report, USMC Camp Lejeune, Area FC-251, Main Service Road, Jacksonville, Onslow County, North Carolina; 1994a (UST Management Web Portal file #652).
- Eastern Environmental, Inc. Underground Storage Tank Closure Report, USMC Camp Lejeune, Area HP-100, Cross Street, Camp Lejeune, Onslow County, North Carolina; 1994b (UST Management Web Portal file #585).
- ECG, Inc. Marine Corps Base Camp Lejeune and Marine Corps Air Station, New River, Water Conservation Analysis. Vienna, VA: ECG, Inc.; 1999.
- Engineering and Environment, Inc. Project Status Report, Second Quarter 2003, Sites H28 and M232–M236, Marine Corps Base, Camp Lejeune, North Carolina; 2003. Contract No.: N62470-020M-3030 (UST Management Web Portal file #482).
- Engineering and Environment, Inc. Quarterly Groundwater Monitoring Report, Site H-28, Marine Corps Base Camp Lejeune, North Carolina; 2004. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #SiteH-28_8-4-04).
- Engineering and Environment, Inc. Annual Groundwater Monitoring Report 2003–2005, Building 45 Site, Marine Corps Air Station New River, North Carolina, Volumes I & II; 2005a. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #45_2005MON).
- Engineering and Environment, Inc. Annual Groundwater Monitoring Report, Site H-28, Marine Corps Base Camp Lejeune, North Carolina; 2005b. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #SiteH-28_Revision_0).
- Engineering and Environment, Inc. Quarterly Groundwater Monitoring Report, Site H-28, Marine Corps Base Camp Lejeune, North Carolina; 2005c. Contract No.: N62470-03-D-4000 (UST Management Web Portal files #SiteH-28_REVO_2-4-05).
- Engineering and Environment, Inc. Annual Groundwater Monitoring Report 2003–2005, Building 645 Site, Camp Lejeune, North Carolina, Volumes I & II; 2006a. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #2005AMR_645).
- Engineering and Environment, Inc. Annual Groundwater Monitoring Report 2003–2005, Building 900 Site, Marine Corps Base Camp Lejeune New River, North Carolina; 2006b. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #900_2005MON).
- Engineering and Environment, Inc. Annual Groundwater Monitoring Report 2003–2005, Building LCH-4015 Site, Marine Corps Base Camp Lejeune, North Carolina; 2006c. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #2005AMR_LCH4015).
- Engineering and Environment, Inc. Annual Groundwater Monitoring Report 2003–2005, Building LCH-4015 Site, Volumes I & II, Marine Corps Base Camp Lejeune, North Carolina; 2006d. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #LCH4015_2005MON).
- Engineering and Environment, Inc. Annual Groundwater Monitoring Report 2005–2006, Site H-28, Marine Corps Base Camp Lejeune, North Carolina; 2006e. Contract No.: N62470-040D-1753 (UST Management Web Portal file #H28_2006MON).
- Engineering and Environment, Inc. Annual Monitoring Report, Site FC-201 East, Marine Corps Base Camp Lejeune, North Carolina; 2006f. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #FC201East_2006MON).

References

- Engineering and Environment, Inc. Annual Monitoring Report, Site S-2633, Revision 0, Marine Corps Base Camp Lejeune, North Carolina; 2006g. Contract No.: N62470-03-D-4000 (UST Management Web Portal file #S2633_2006MON).
- Environmental and Regulatory Consultants, Inc. Tank Removal Report, Marine Corps Base, Building 738, Camp Lejeune, North Carolina; 1994. Contract No.: N62470-92-C-8259 (UST Management Web Portal file #607).
- Environmental and Safety Designs, Inc. Facility Assessment Preliminary Review Document for Marine Corps Base Camp Lejeune, North Carolina, Volume II; 1995 (CERCLA Administrative Record file #125).
- Environmental and Safety Designs, Inc. RCRA Facility Assessment Report for Marine Corps Base Camp Lejeune, North Carolina; 1996 (CERCLA Administrative Record file #2358).
- Environmental Science and Engineering, Inc. Evaluation of Data from the First Round of Verification Sample Collection and Analysis, Confirmation Study to Determine Existence of Specific Chemicals In Situ, Marine Corps Base Camp Lejeune, North Carolina; 1985. Contract No.: N62470-83-B-6101 (CERCLA Administrative Record file #388).
- Environmental Science and Engineering, Inc. Characterization Step Report for Hadnot Point Industrial Area, Confirmation Study to Determine Existence and Possible Migration of Specific Chemicals In Situ, Marine Corps Base Camp Lejeune, North Carolina; 1988. Contract No.: N62470-83-C-6106 (CERCLA Administrative Record file #258).
- Environmental Systems and Technology, Inc., SpillCADUsers Manual (version 3.410); 1994.
- Faye RE. Analyses of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water at Tarawa Terrace and Vicinity, U.S. Marine Corps Base Camp Lejeune, North Carolina: Historical Reconstruction and Present-Day Conditions—Chapter B: Geohydrologic Framework of the Castle Hayne Aquifer System. Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2007.
- Faye RE. Analyses of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water at Tarawa Terrace and Vicinity, U.S. Marine Corps Base Camp Lejeune, North Carolina: Historical Reconstruction and Present-Day Conditions—Chapter F: Simulation of the Fate and Transport of Tetrachloroethylene (PCE). Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2008.
- Faye RE. Analyses and Historical Reconstruction of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water Within the Service Areas of the Hadnot Point and Holcomb Boulevard Water Treatment Plants and Vicinities, U.S. Marine Corps Base Camp Lejeune, North Carolina—Chapter B: Geohydrologic Framework of the Brewster Boulevard and Castle Hayne Aquifer Systems and the Tarawa Terrace Aquifer and Confining Unit. Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2012.
- Faye RE, Anderson BA, Suárez-Soto RJ, and Sautner JB. Analyses and Historical Reconstruction of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water Within the Service Areas of the Hadnot Point and Holcomb Boulevard Water Treatment Plants and Vicinities, U.S. Marine Corps Base Camp Lejeune, North Carolina—Chapter C: Occurrence of Selected Contaminants in Groundwater at Installation Restoration Program Sites. Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2010.
- Faye RE and Green JW Jr. Analyses of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water at Tarawa Terrace and Vicinity, U.S. Marine Corps Base Camp Lejeune, North Carolina: Historical Reconstruction and Present-Day Conditions—Chapter E: Occurrence of Contaminants in Groundwater. Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2007.
- Faye RE and Valenzuela C. Analyses of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water at Tarawa Terrace and Vicinity, U.S. Marine Corps Base Camp Lejeune, North Carolina: Historical Reconstruction and Present-Day Conditions—Chapter C: Simulation of Groundwater Flow. Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2007.
- Geophex, Ltd. Wellhead Management Program, Engineering Study 91–36, Submitted to Officer In Charge of Construction, Marine Corps Base Camp Lejeune, North Carolina; 1991. Contract No.: N62470-90-D-6756 (Camp Lejeune Water Document #1917).
- Geophex, Ltd. Final Report on Groundwater Resource Evaluation at Marine Corps Air Station, New River, Engineering Study 93–09; 1994.
- Geophex, Ltd. Removal of Free-Floating Petroleum from Groundwater Wells at the Marine Corps Base, Camp Lejeune, North Carolina and the Marine Corps Air Station, Jacksonville, North Carolina; 1997. Contract No.: 62470-92-8428 (UST Management Web Portal file #416).

- Geophex, Ltd. Geophysical Investigation at Building 645 Site, MCB Camp Lejeune, NC, Final Report; 2001 (UST Management Web Portal file #720).
- Geophex, Ltd. Geophysical Investigation at the Former Fuel Facility and Surrounding Areas, Hadnot Point, MCB Camp Lejeune, NC, Volumes I–III: Interim report; 2002a (UST Management Web Portal file #450).
- Geophex, Ltd. Geophysical Investigation at the Former Fuel Facility and Surrounding Areas, Hadnot Point, MCB Camp Lejeune, NC, Volume 4: Final Report and Data Applications; 2002b (UST Management Web Portal file #235).
- Geosciences, Inc. UST Closure Consulting Services, Building 311, Camp Lejeune, North Carolina; 1995a. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #576).
- Geosciences, Inc. UST Closure Consulting Services, Building 712, Camp Lejeune, North Carolina; 1995b. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #577).
- Geosciences, Inc. UST Closure Consulting Services, Building 900, Camp Lejeune, North Carolina; 1995c. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #592).
- Geosciences, Inc. UST Closure Consulting Services, Building 1117, Camp Lejeune, North Carolina; 1995d. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #589).
- Geosciences, Inc. UST Closure Consulting Services, Building 1613, Camp Lejeune, North Carolina; 1995e. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #535).
- Geosciences, Inc. UST Closure Consulting Services, Building 1705, Camp Lejeune, North Carolina; 1995f. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #578).
- Geosciences, Inc. UST Closure Consulting Services, Building FC190, Camp Lejeune, North Carolina; 1995g. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #647).
- Geosciences, Inc. UST Closure Consulting Services, Building LCH4005, Camp Lejeune, North Carolina; 1995h. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #586).
- Geosciences, Inc. UST Closure Consulting Services, UST 40-1 and 40-2, Camp Lejeune, North Carolina; 1995i. Contract No.: N62470-93-B-0286 (UST Management Web Portal file #604).
- Groundwater Technology Government Services, Inc. Five Well Plus Five Additional Well Site Check Report, Building 1115, Marine Corps Base, Camp Lejeune, NC; 1993a. Contract No.: N62470-91-D-6652 (UST Management Web Portal File #383).
- Groundwater Technology Government Services, Inc. Three Well Site Check Report, Building 903, Marine Corps Base, Camp Lejeune, NC; 1993b. Contract No.: N62470-91-D-6652 (UST Management Web Portal file #70).
- Groundwater Technology Government Services, Inc. Three Well Site Check Report, Building FC-102, Marine Corps Base, Camp Lejeune, NC; 1993c. Contract No.: N62470-91-D-6652 (UST Management Web Portal file #267).
- Groundwater Technology Government Services, Inc. Three Well Site Check Report, Building FC-120, Marine Corps Base, Camp Lejeune, NC; 1993d. Contract No.: N62470-91-D-6652 (UST Management Web Portal file #268).
- Groundwater Technology Government Services, Inc. Three Well Site Check Report, Building FC-201, East Side, Marine Corps Base, Camp Lejeune, NC; 1993e. Contract No.: N62470-91-D-6652 (UST Management Web Portal file #693).
- Groundwater Technology Government Services, Inc. Three Well Site Check Report, Building FC-201, West Side, Marine Corps Base, Camp Lejeune, NC; 1993f. Contract No.: N62470-91-D-6652 (UST Management Web Portal file #269).
- Groundwater Technology Government Services, Inc. Three Well Site Check Report, Building H-30, Marine Corps Base, Camp Lejeune, NC; 1993g. Contract No.: N62470-91-D-6652 (UST Management Web Portal file #756).
- Groundwater Technology Government Services, Inc. Three Well Site Check Report, Building LCH-4022, Marine Corps Base, Camp Lejeune, NC; 1993h. Contract No.: N62470-91-D-6652 (UST Management Web Portal file #145).
- Harned DA, Lloyd OB Jr, and Treece MW Jr. Assessment of Hydrologic and Hydrogeologic Data at Camp Lejeune Marine Corps Base, North Carolina. Raleigh, NC: U.S. Geological Survey Water-Resources Investigations Report 89–4006; 1989.
- Huling SG, and Weaver JW. Dense Nonaqueous Phase Liquids. Washington, DC: U.S. Environmental Protection Agency, Office of Research and Development and Office of Solid Waste and Emergency Response; 1991 March. Report No.: EPA/540/4-91-002.
- J.A. Jones Environmental Services Company. Close-out Report, Soil Remediation, Building No. 21 and H-28, Marine Corps Base, Camp Lejeune, North Carolina; 1996. Contract No.: N62470-93-D-3033 (UST Management Web Portal File # 572).

References

- J.A. Jones Environmental Services Company. Annual Report, Request for no Further Action Status, UST FC-251 2&3, Marine Corps Base Camp Lejeune, North Carolina; 1998. Contract No.: NC62470-93-D-3033 (UST Management Web Portal file #265).
- J.A. Jones Environmental Services Company. Annual Monitoring Report, CAP Implementation, UST-PT-5, Marine Corps Base Camp Lejeune, North Carolina; 1999a (UST Management Web Portal file #373).
- J.A. Jones Environmental Services Company. Annual Monitoring Report, UST FC-263-5, Marine Corps Base Camp Lejeune, North Carolina; 1999b (UST Management Web Portal file #142).
- J.A. Jones Environmental Services Company. GW-UST 12 Report, UST Removal at BLDG 45, Marine Corps Base Camp Lejeune, North Carolina; 1999c (UST Management Web Portal file #unknown).
- J.A. Jones Environmental Services Company. Monthly Status Report, U.S. Marine Corps Base Camp Lejeune, North Carolina; 1999d. Contract No.: N62470-93-D-3033 (UST Management Web Portal file #40).
- J.A. Jones Environmental Services Company. Annual Report, Request for no Further Action Status, USTs 1854-2&3, Marine Corps Base Camp Lejeune, North Carolina; 2000a. Contract No.: N62470-93-D-3033 (Leaking Underground Storage Tank file #192).
- J.A. Jones Environmental Services Company. Annual Report, Request for no Further Action Status, UST FC-263-5, Marine Corps Base Camp Lejeune, North Carolina; 2000b. Contract No.: N62470-93-D-3033 (Leaking Underground Storage Tank file #160).
- J.A. Jones Environmental Services Company. Annual Monitoring Report, Soil and Groundwater Remediation, Building 645, Appendices A&B, Marine Corps Base Camp Lejeune, North Carolina; 2001a (UST Management Web Portal file #727).
- J.A. Jones Environmental Services Company. Annual Monitoring Report, Soil and Groundwater Remediation, Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2001b. Contract No.: 62470-93-D-3033 (UST Management Web Portal file #718).
- J.A. Jones Environmental Services Company. Annual Monitoring Report, Request for no Further Action Status, Soil Remediation, Building LCH-4022, Marine Corps Base Camp Lejeune, North Carolina; 2002a. Contract No.: 62470-93-D-3033 (UST Management Web Portal LCH4022_NFA_REQUEST).
- J.A. Jones Environmental Services Company. Annual Monitoring Report, Soil and Groundwater Remediation, Building 45-USTs S-941-1 and 941-2, Marine Corps Base Camp Lejeune, North Carolina, Volume I; 2002b (UST Management Web Portal file #20070730_001).
- J.A. Jones Environmental Services Company. Underground Storage Tank Closure Report, UST LCH 4034-1, LCH 4034-2, LCH 4034-3, Marine Corps Base Camp Lejeune, North Carolina; 2002c (Leaking Underground Storage Tank Program file #20070730_010,#Bldg_LCH4034010).
- J.A. Jones Environmental Services Company. Underground Storage Tank Closure Report, UST FC-286, Marine Corps Base, Camp Lejeune, North Carolina; 2003. Contract No.: N62470-93-D-3033 (UST Management Web Portal file #137).
- Kopecky KJ, Davis S, Hamilton TE, Saporito MS, and Onstad LE. Estimation of Thyroid Radiation Doses for the Hanford Thyroid Disease Study: Results and Implications for Statistical Power of the Epidemiological Analyses. *Health Physics*. 2004; 87(1):15–32.
- Kueper BH, Wealthall GP, Smith JWN, Leharne SA, and Lerner DN. *An Illustrated Handbook of DNAPL Transport and Fate in the Subsurface*. Bristol, United Kingdom: Environment Agency R&D Publication 133; 2003 June.
- Law Engineering and Environmental Services, Inc. Comprehensive Site Assessment Report, Volumes I & II, Building LCH-4015, Marine Corps Base Camp Lejeune, North Carolina; 1996a. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #237).
- Law Engineering and Environmental Services, Inc. Corrective Action Plan for the Recovery of Free Product and the Restoration of Petroleum Contaminated Soil and Groundwater, Berkeley Manor Tank 820, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 1996b (UST Management Web Portal file #705).
- Law Engineering and Environmental Services, Inc. Corrective Action Plan for the Recovery of Free Product and the Restoration of Petroleum Contaminated Soil and Groundwater, UST PT-5, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 1996c. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #470).
- Law Engineering and Environmental Services, Inc. Corrective Action Plan for the Restoration of Petroleum Contaminated Soil and Groundwater, Building 45, USTs S-941-1 and 2, Equipment and Maintenance Shop, Marine Corps Base Camp Lejeune, North Carolina; 1996d. Contract No.: N62470-93-D-3033 (UST Management Web Portal file #742).

- Law Engineering and Environmental Services, Inc. Corrective Action Plan for the Restoration of Petroleum Contaminated Soil and Groundwater, Building LCH-4015, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 1996e. Contract No.: 62470-93-D-4020 (UST Management Web Portal file #243).
- Law Engineering and Environmental Services, Inc. Corrective Action Plan, USTs 1854-2&3, Building 1854, MCB Camp Lejeune, Onslow County, North Carolina; 1996f. Contract No.: 62470-93-D-4020 (UST Management Web Portal file #190).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, Building SLCH-4019, Marine Corps Base Camp Lejeune, North Carolina; 1996g. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #346).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, H-30, Marine Corps Base Camp Lejeune, North Carolina; 1996h. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #758).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, UST 1880-3, Marine Corps Base Camp Lejeune, North Carolina; 1996i. Contract No.: N62470-93-D-4020 (Leaking Underground Storage Tank Program file #86).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, UST PT-5, Marine Corps Base Camp Lejeune, North Carolina; 1996j. Contract No.: N62470-93-D-4020 (Leaking Underground Storage Tank Program file #216).
- Law Engineering and Environmental Services, Inc. Corrective Action Plan for the Restoration of Petroleum Contaminated Groundwater by Natural Attenuation and Degradation, Building 1450-1,2,5,6,&7, Marine Corps Base Camp Lejeune, North Carolina, Draft; 1997a. Contract No.: N62470-93-D-4020 (Leaking Underground Storage Tank Program file #77).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Building 1106, Marine Corps Base Camp Lejeune, North Carolina; 1997b. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #68).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Building 1450, USTs 1450-3 and 1450-4, Marine Corps Base Camp Lejeune, North Carolina; 1997c. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #164).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, Building 900, Marine Corps Base Camp Lejeune, North Carolina; 1997d. Contract No.: N62470-93-D-4020 (Leaking Underground Storage Tank Program file #716).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, Building 1450, Tanks 1,2,5,6,7, Marine Corps Base Camp Lejeune, North Carolina; 1997e. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #78).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volume I, Building 5400, Berkeley Manor Elementary School, Marine Corps Base Camp Lejeune, North Carolina; 1997f. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #180).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, UST H-19, Marine Corps Base Camp Lejeune, North Carolina; 1997g. Contract No.: N62470-95-D-6009 (Leaking Underground Storage Tank Program file #374).
- Law Engineering and Environmental Services, Inc. Corrective Action Plan for the Restoration of Petroleum Contaminated Groundwater by Air Sparging/Vapor Extraction and Natural Attenuation and Degradation, Building 900; 1998a. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #704).
- Law Engineering and Environmental Services, Inc. Leaking Underground Storage Tank Site, Preliminary Site Assessment, Building HP-100, Marine Corps Base Camp Lejeune, North Carolina; 1998b. Contract No.: N62470-95-D-6009 (Leaking Underground Storage Tank Program files #672, #673).
- Law Engineering and Environmental Services, Inc. Limited Site Assessment Addendum, UST NH118-3, Public Works Department, United States Navy Hospital, Marine Corps Base Camp Lejeune, North Carolina; 1998c. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #354).
- Law Engineering and Environmental Services, Inc. ORC Pilot Test Result Report, SLCH 4019, Camp Lejeune, North Carolina, Draft; 1998d. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #214).
- Law Engineering and Environmental Services, Inc. Request for "No Further Action" Status, SLCH 4019, Marine Corps Base Camp Lejeune, North Carolina; 1998e. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #348).

References

- Law Engineering and Environmental Services, Inc. Risk Characterization Assessment, Former USTs H30-1 and H30-2, Marine Corps Base Camp Lejeune, North Carolina, Draft; 1999. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #395).
- Law Engineering and Environmental Services, Inc. First Semi-Annual Groundwater Monitoring Report, Building H-19-1, H-19-2, H-19-3, Marine Corps Base Camp Lejeune, North Carolina; 2000a. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #397).
- Law Engineering and Environmental Services, Inc. First Semi-Annual Groundwater Monitoring Report, Building H-30-1 and H-30-2, Marine Corps Base Camp Lejeune, North Carolina; 2000b. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #376).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Building 1450 Tanks 1,2,5,6,7, Military Vehicle Storage and Repair Facility, Marine Corps Base Camp Lejeune, North Carolina; 2000c. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #187).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Former Hydraulic Oil UST’s, Building 1323, Building Maintenance Facility, Marine Corps Base Camp Lejeune, North Carolina; 2000d. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #392).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Former Underground Storage Tank, Building 311, General Storage Warehouse, Marine Corps Base Camp Lejeune, North Carolina; 2000e. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #230).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Former UST 20-1, Building 20, Marine Corps Base Camp Lejeune, North Carolina; 2000f. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #49).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Former USTS FC281-1 and FC281-2, Inspection Station, French Creek Area, Marine Corps Base Camp Lejeune, North Carolina; 2000g. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #155).
- Law Engineering and Environmental Services, Inc. Risk Characterization Assessment and Request for No Further Action Consideration, Former UST 21-1, Marine Corps Base Camp Lejeune, North Carolina; 2000h. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #51).
- Law Engineering and Environmental Services, Inc. Risk Characterization Assessment, Former UST H28-1, Marine Corps Base, Camp Lejeune, North Carolina, Draft; 2000i. Contract No.: N62470-95-D-6009 (Leaking Underground Storage Program file #403).
- Law Engineering and Environmental Services, Inc. Former 1000-Gallon Capacity Gasoline Underground Storage Tank Building 1919-3, Base Housing Maintenance Facility, Marine Corps Base Camp Lejeune, North Carolina; 2001a. Contract No.: N62470-95-D-6089 (UST Management Web Portal file #103).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Former Fuel-oil Underground Storage Tank, Building 1919-2, Base Housing Maintenance Facility, Marine Corps Base Camp Lejeune, North Carolina; 2001b (UST Management Web Portal file #391).
- Law Engineering and Environmental Services, Inc. Second Semi-Annual Groundwater Monitoring Report, Building H-19-1, H-19-2, and H-19-3, Marine Corps Base Camp Lejeune, North Carolina; 2001c. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #398).
- Law Engineering and Environmental Services, Inc. Second Semi-Annual Groundwater Monitoring Report, Building H-28-1, Marine Corps Base Camp Lejeune, North Carolina; 2001d. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #20070727_002).
- Law Engineering and Environmental Services, Inc. Second Semi-Annual Groundwater Monitoring Report, Building H-30-1 and H-30-2, Marine Corps Base Camp Lejeune, North Carolina; 2001e. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #759).
- Law Engineering and Environmental Services, Inc. Soil Assessment Report and Recommendation for “No Further Action,” Former USTs FC 281-1 and FC291-2, Inspection Station, French Creek Area, Marine Corps Base Camp Lejeune, North Carolina; 2001f. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #136).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Former Diesel Fuel Underground Storage Tank, Building 24, Electronics Maintenance Facility, Marine Corps Base Camp Lejeune, North Carolina; 2002a. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #390).
- Law Engineering and Environmental Services, Inc. Phase I Limited Site Assessment and Recommendation for “No Further Action,” Former Gasoline/Diesel Fuel Underground Storage Tanks, Building 1502, Motor Transport Facility, Marine Corps Base Camp Lejeune, North Carolina; 2002b. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #532).

- Law Engineering, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, Building 45, Equipment and Maintenance Shop UST S-941-2, Marine Corps Base Camp Lejeune, North Carolina; 1994a. Contract No.: N62470-90-D-7625 (UST Management Web Portal file #737).
- Law Engineering, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, Building FC-201 East, Marine Corps Base Camp Lejeune, North Carolina; 1994b. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #750).
- Law Engineering, Inc. Addendum to Leaking Underground Storage Tank Assessment, Volumes I & II, Berkeley Manor Exchange Service Station, UST 820-2, Marine Corps Base Camp Lejeune, North Carolina; 1995a. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #715).
- Law Engineering, Inc. Remedial Strategy/Pilot Study Recommendation, UST PT-5, Marine Corps Base Camp Lejeune; 1995b. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #1201).
- Law Engineering, Inc. Report of Leaking Underground Storage Tank Site Assessment, Volumes I & II, Berkeley Manor Exchange Service Station, UST 820-2, Marine Corps Base Camp Lejeune, North Carolina; 1995c. Contract No.: N62470-90-D-7625 (UST Management Web Portal file #543).
- Law Engineering, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, UST 33, Marine Corps Base Camp Lejeune, North Carolina; 1996a. Contract No.: N62470-93-D-4020 (UST Management Web Portal File #67).
- Law Engineering, Inc. Leaking Underground Storage Tank Site Assessment Report, Volumes I & II, UST 331, Marine Corps Base Camp Lejeune, North Carolina; 1996b. Contract No.: N62470-93-D-4020 (UST Management Web Portal File #63).
- MACTEC Engineering and Consulting, Inc. Former Underground Storage Tanks H-19-1, H-19-2, and H-19-3, Building H-19, Marine Corps Base Camp Lejeune, North Carolina; 2003. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #20070806-003).
- Marine Corps Base, Camp Lejeune, Proposed Remedial Action Plan, Operable Unit No. 19 (Site 84/Building 45 Area); 2002 (CERCLA Administrative Record file #2979).
- Maslia ML, Aral MM, Faye RE, Suárez-Soto RJ, Sautner JB, Wang J, Jang W, Bove FJ, and Ruckart, PZ. Reconstructing Historical Exposures to Volatile Organic Compound–Contaminated Drinking Water at a U.S. Military Base. *Water Quality, Exposure and Health*. 2009;1(1):49–68.
- Maslia ML, Sautner JB, Aral MM, Gillig RE, Reyes JJ, and Williams RC. Historical Reconstruction of the Water-Distribution System Serving the Dover Township Area, New Jersey: January 1962–December 1996. Atlanta, GA: Agency for Toxic Substances and Disease Registry; 2001 October.
- McLaren/Hart-ChemRisk. Oak Ridge Dose Reconstruction Project Summary Report. Alameda, CA: McLaren/Hart-ChemRisk; 2000.
- Mid-Atlantic Associates, P.A. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment for UST PP-3363 Site, Paradise Point Housing Area, Marine Corps Base Camp Lejeune, North Carolina; 2002. Contract No.: N62470-01-D-3009 (UST Management Web Portal file #385).
- Mid-Atlantic Associates, Inc. Leaking Underground Storage Tank (LUST) Phase I Limited Site Assessment Report, UST 1323-3, Vehicle Maintenance Facility, Headquarters Battery, 10th Marines, Marine Corps Base Camp Lejeune, North Carolina; 2003a. Contract No.: N62470-010D-3009 (UST Management Web Portal file #UST_1323-3_Phase_I_LSA).
- Mid-Atlantic Associates, Inc. Leaking Underground Storage Tank Phase I Limited Site Assessment, UST 1323-3 Site, Vehicle Maintenance Facility, Headquarters Battery, 10th Marines, Marine Corps Base, Camp Lejeune, North Carolina; 2003b (Leaking Underground Storage Program file #405).
- Nazaroff WW and Alvarez-Cohen L. *Environmental Engineering Science*. New York: John Wiley & Sons, Inc.; 2001.
- O'Brien and Gere Engineers, Inc. Final Report, Contaminated Ground Water Study, Marine Corps Base Camp Lejeune, North Carolina, Hadnot Point Area; 1988. Contract No.: N62470-86-C-8740 (CERCLA Administrative Record file #417; UST Management Web Portal file #669).
- O'Brien and Gere Engineers, Inc. Preliminary Engineering Report, Product Recovery System Design, Hadnot Point Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina; 1990. Contract No.: N62470-88-D-5825 (CERCLA Administrative Record file #382).
- O'Brien and Gere Engineers, Inc. Site Assessment Addendum, Tanks S889 and S891, Holcomb Boulevard, Marine Corps Base Camp Lejeune, North Carolina; 1992a. Contract No.: N62470-90-R-7626 (UST Management Web Portal file #156).
- O'Brien and Gere Engineers, Inc. Site Assessment, Tank S781, Midway Park, Marine Corps Base Camp Lejeune, North Carolina; 1992b. Contract No.: N62470-90-R-7626 (CERCLA Administrative Record file #269; UST Management Web Portal file #158).

References

- O'Brien and Gere Engineers, Inc. Site Assessment Addendum, Tank S781, Midway Park, Marine Corps Base Camp Lejeune, North Carolina; 1993. Contract No.: N62470-90-R-7626 (CERCLA Administrative Record file #270; UST Management Web Portal file #159).
- OHM Remediation Services Corp. April 1999, Monthly Progress Reports, POL Sites, MCB Camp Lejeune, Jacksonville, North Carolina; 1999a. Contract Nos.: N62470-93-D-3032 and N62470-97-D-5000 (UST Management Web Portal file #18).
- OHM Remediation Services Corp. March 1999, Monthly Progress Reports, POL Sites, MCB Camp Lejeune, Jacksonville, North Carolina; 1999b. Contract Nos.: N62470-93-D-3032 and N62470-97-D-5000 (UST Management Web Portal file #20).
- OHM Remediation Services Corp. June 1999, Monthly Progress Reports, POL Sites, MCB Camp Lejeune, Jacksonville, North Carolina; 1999c. Contract Nos.: N62470-93-D-3032 and N62470-97-D-5000 (UST Management Web Portal file #19).
- OHM Remediation Services Corp. Additional Investigation, Building 1613, Marine Corps Base Camp Lejeune, Onslow County, North Carolina, Draft; 2000a. Contract No.: N62470-97-5000 (UST Management Web Portal file #551).
- OHM Remediation Services Corp. Additional Soil Assessment, Building 1613, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2000b. Contract No.: N62470-97-D-5000 (UST Management Web Portal file #538).
- OHM Remediation Services Corp. Annual Monitoring Report, Building 1613, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2000c. Contract No.: N62470-97-5000 (UST Management Web Portal file #547).
- OHM Remediation Services Corp. Final Annual Monitoring Report, Building 820, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2000d. Contract No.: N62470-97-5000 (UST Management Web Portal file #539).
- OHM Remediation Services Corp. Annual AS/SVE Monitoring Report, Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2001a. Contract No.: N62470-97-D-5000 (UST Management Web Portal file #664).
- OHM Remediation Services Corp. Annual Monitoring Report, Building 820, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2001b. Contract No.: N62470-97-D-5000 (UST Management Web Portal file #527).
- OHM Remediation Services Corp. August 2001, Monthly Progress Reports, POL Sites, MCB Camp Lejeune, Jacksonville, North Carolina; 2001c. Contract Nos.: N62470-93-D-3032 and N62470-97-D-5000 (UST Management Web Portal file #3).
- OHM Remediation Services Corp. Final Additional Groundwater Investigation, Building 1613, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2001d. Contract No.: N62470-97-D-5000 (UST Management Web Portal File #550).
- OHM Remediation Services Corp. Final Annual Monitoring Report, Building 1613, Marine Corps Base Camp Lejeune, Onslow County, North Carolina, 2001e. Contract No.: N62470-97-D-5000 (UST Management Web Portal file #555).
- OHM Remediation Services Corp. Final Closeout Report for Removal or Abandonment of Underground Fuel Oil Pipeline, Hadnot Point Fuel Farm/Buildings 1115, 1502, 1601, Marine Corps Base, Camp Lejeune, North Carolina; 2001f. Contract No.: N62470-97-D-5700 (UST Management Web Portal File #417).
- OHM Remediation Services Corp. Hadnot Point Fuel Farm, Camp Lejeune, North Carolina, A Hypothesis to Explain the Persistence of Free Product in the Subsurface; 2001g (UST Management Web Portal file #676).
- OHM Remediation Services Corp., Final 2001 Annual AS/SVE Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2002a. Contract No.: N62470-97-D-5000 (UST Management Web Portal file #407).
- OHM Remediation Services Corp. Final Annual Monitoring Report, Building 820, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2002b (UST Management Web Portal file #528).
- OHM Remediation Services Corp. Final Annual Monitoring Report, Building 1613, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2002c (UST Management Web Portal file #549).
- Osage of Virginia, Inc. Final Soil Sampling Report for FC-201E, Soil Sampling Event, September 2006a, Marine Corps Base Camp Lejeune, North Carolina; 2006a. Contract No.: N40085-06-D-7006 (UST Management Web Portal file #FC201E_2006_SOILRPT).
- Osage of Virginia, Inc. Monitoring Report and Request for No Further Action, Building H-19, Marine Corps Base Camp Lejeune, North Carolina; 2006b. Contract No.: N62470-04-D-1753 (UST Management Web Portal file #H19_MON_NFA).
- Osage of Virginia, Inc. Final Report of Findings, Building 30, Former Underground Storage Tank (UST) 30-1, Marine Corps Base (MCB) Camp Lejeune, North Carolina; December 13, 2007. Contract No.: N40085-06-D-7006 (Leaking Underground Storage Program file #30_2007ROF_SOILSAMPLING).

- Osage of Virginia, Inc. Final Report of Findings, Building 30, Former Underground Storage Tank (UST) 30-1, Marine Corps Base (MCB) Camp Lejeune, North Carolina; 2008. Contract No.: N40085-06-D-7006 (Leaking Underground Storage Program file #30_2008ROF_Final).
- Osage of Virginia, Inc. Final Annual Groundwater Monitoring Report 2008–2009, Building 1613, Marine Corps Base Camp Lejeune, North Carolina; 2009, Contract No.: N40085-06-D-7006 (Leaking Underground Storage Program file #Final_AMRCatlin_Bldg1613).
- Peele's Pump and Tank Company, Initial Site Assessment Report, UST Closure by Removal, 1-550 Gallon Heating Oil, Building 903, Camp Lejeune, Jacksonville, NC; 1993a (UST Management Web Portal file #599).
- Peele's Pump and Tank Company, Initial Site Assessment Report, UST Closure by Removal, 1-550 Gallon Heating Oil, Building SLCH-4019, Midway Park, Jacksonville, NC; 1993b (UST Management Web Portal file #643).
- Peele's Pump and Tank Company, Initial Site Assessment Report, UST Closure by Removal, 1-2000 Gallon Used Oil, Building 901, Camp Lejeune, Jacksonville, NC; 1993c (UST Management Web Portal file #597).
- Peele's Pump and Tank Company, Initial Site Assessment Report, UST Closure by Removal, 2-15000 Gallon Heating Oil Tank, Building H-19-1,2, Camp Lejeune, Jacksonville, NC; 1995 (UST Management Web Portal file #620).
- Reif JS, Burch JB, Nuckols JR, Metzger L, Ellington D, and Anger KW. Neurobehavioral Effects of Exposure to Trichloroethylene Through a Municipal Water Supply. *Environmental Research*. 2003;93:248–258.
- R.E. Wright Associates, Inc. Five Well Site Check and Resample One Existing Well, Marine Corps Base, Camp Lejeune, North Carolina, UST 45-1; 1994a. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #740; #1994_REW_FiveWellSiteCheck).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, Building HP-645 (AST); 1994b. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #728).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST 33; 1994c. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #59, #60).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST 61; 1994d. Contract No.: N62470-93-D-4035 (Leaking Underground Storage Tank Program file #64).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Air Base, Camp Lejeune, North Carolina, UST 1310-1; 1994e. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #76).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST 1607-1 and 1607-2; 1994f. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #724).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST 1919-1; 1994g. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #485).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST 1932; 1994h. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #102).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST FC-102; 1994i. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #261).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base Camp Lejeune, North Carolina, UST SLCH-4019; 1994j. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #345).
- R.E. Wright Associates, Inc. Three Well Site Check, Marine Corps Base Camp Lejeune, North Carolina, USTs FC-251-2 and FC-251-3; 1994k. Contract No.: N62470-93-D-4035 (UST Management Web Portal files #263, 275).
- R.E. Wright Environmental, Inc. Five Plus Seven Additional Wells Site Check, Marine Corps Base, Camp Lejeune, North Carolina, Facility 1856, UST 1856-1 to UST 1856-6; 1995a. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #79).
- R.E. Wright Environmental, Inc. Five Plus Two Additional Wells Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST H-19; 1995b. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #755).
- R.E. Wright Environmental, Inc. Five Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, LCH-4015 AST Fuel Farm; 1995c. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #246).
- R.E. Wright Environmental, Inc. Three Plus One Well Site Check, Marine Corps Base, Camp Lejeune, North Carolina, UST 1502-1; 1995d. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #163).
- R.E. Wright Environmental, Inc. DPTSAV Site Check, UST 900, Marine Corps Base Camp Lejeune, North Carolina; 1996. Contract No.: N62470-93-D-4035 (UST Management Web Portal file #529).

References

- Rhea Engineers and Consultants, Inc. Building 645 Deep Zone Delineation, Report of Findings, Marine Corps Base Camp Lejeune, North Carolina; 2010a (UST Management Web Portal file #645_DEEPZONE_ROF).
- Rhea Engineers and Consultants, Inc. Final 2009 Annual Monitoring Report, June 2009–January 2010, Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2010b. Contract No.: N40085-08-D-1409 (UST Management Web Portal file #2009_AMR_Bldg645).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, Tank 1115, Marine Corps Base, Camp Lejeune, North Carolina, Volume II, Draft; 1994. Contract No.: N62470-93-D-4020 (UST Management Web Portal File #245).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, 645, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1995a. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #717).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, Building LCH-4022, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1995b. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #152).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, FC263-5, Marine Corps Base Camp Lejeune, North Carolina; 1995c. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #139).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Corrective Action Plan, Building FC-201 East, Marine Corps Base Camp Lejeune, North Carolina, Draft; 1995d. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #377).
- Richard Catlin and Associates, Inc. Final Leaking Underground Storage Tank Comprehensive Site Assessment, Building 1613, USTs 1613 1–4, Marine Corps Base Camp Lejeune, North Carolina, Volumes I & II; 1996a. Contract No. N62470-93-D-4020 (CERCLA Administrative Record file #90; UST Management Web Portal file #548).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Addendum Site Assessment, 645, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1996b. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #710).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, USTs 1854-2 & 3, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1996c. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #99).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, UST FC-251-2-3, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1996d. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #276).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Corrective Action Plan, Building LCH-4022, Marine Corps Base Camp Lejeune, North Carolina, Draft; 1996e. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #154).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Corrective Action Plan, UST FC-263-5, Marine Corps Base Camp Lejeune, North Carolina, Final; 1996f. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #149).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Site Assessment Workplan, Building 1601, Marine Corps Base Camp Lejeune, North Carolina; 1996g. Contract No.: N62470-93-D-4020 (UST Management Web Portal File #172).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, Building 1601, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1997a. Contract No. N62470-93-D-4020 (UST Management Web Portal file #195).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, Building 1804, Former USTs 1856-1 through 1856-6, Marine Corps Base, Camp Lejeune, North Carolina, Draft Volumes I & II; 1997b (UST Management Web Portal file #100).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, Hadnot Point Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina, Final, Volumes I & II; 1997c. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #457).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Additional Site Assessment Report, Building 1115, Marine Corps Base Camp Lejeune, North Carolina, Final; 1998a. Contract No.: N62470-95-D-6009 (UST Management Web Portal file #410).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, Tank 1115, Volumes I & II, Marine Corps Base Camp Lejeune, North Carolina, Final; 1998b. Contract No.: N62470-95-D-4020 (UST Management Web Portal file #408).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Corrective Action Plan, USTs 1613 1–4, Marine Corps Base Camp Lejeune, North Carolina; 1998c. Contract No.: N62470-95-D-6009 (UST Management Web Portal File #546).

- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Corrective Action Plan, USTs FC-251-2-3, Final, Marine Corps Base Camp Lejeune, North Carolina; 1998d. Contract No.: N62470-93-D-4020 (UST Management Web Portal file #151).
- Richard Catlin and Associates, Inc. Leaking Underground Storage Tank Comprehensive Site Assessment, Building 1804, Former USTs 1856-1 through 1856-6, Marine Corps Base Camp Lejeune, North Carolina, Volumes I & II; 2001. Contract No.: N62470-95-D-6009 (UST Management Web Portal File #200).
- Rodenbeck SE, and Maslia ML. Groundwater Modeling and GIS to Determine Exposure to TCE at Tucson. Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management. 1998;2(2):53-61.
- S&ME, Inc. Well Installation and Soil and Groundwater Sampling Event (September/October 1997), BLDG. 903, MCB, Camp Lejeune, North Carolina; 1998a (UST Management Web Portal file#71).
- S&ME, Inc. Well Installation and Soil and Groundwater Sampling Event (September/October 1997), BLDG. 1310, MCB, Camp Lejeune, North Carolina; 1998b (UST Management Web Portal file#73).
- S&ME, Inc. Well Installation and Soil and Groundwater Sampling Event (September/October 1997), BLDG. 1607, MCB, Camp Lejeune, North Carolina; 1998c (UST Management Web Portal file#723).
- Sahmel J, Devlin K, Paustenbach D, Hollins D, and Gaffney S. The Role of Exposure Reconstruction in Occupational Human Health Risk Assessment: Current Methods and a Recommended Framework. Critical Reviews on Toxicology. 2010;40(9):799-843.
- SCS Engineers. Final Report, Oil Pollution Survey for Marine Corps Base Camp Lejeune, Jacksonville, North Carolina; 1977. Contract No.: N62470-76-C-1863.
- Shaw Environmental, Inc. Final 2002 Annual Monitoring Report, Building 820, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2002. Contract No.: N62470-97-D-5000 (UST Management Web Portal file #733).
- Shaw Environmental, Inc. 2002 Annual Monitoring Report, Building 1613, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 2003a. Contract No.: N62470-97-D-5000 (UST Management Web Portal file #20070730_008).
- Shaw Environmental, Inc. Final 2002 Annual AS/SVE Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2003b (UST Management Web Portal file #420).
- Shaw Environmental, Inc. Annual Monitoring Report, August 2000–August 2001, Soil and Groundwater Remediation, Building LCH-4015, Marine Corps Base Camp Lejeune, North Carolina; 2004a. Contract No.: N62470-02-D-3260 (Leaking Underground Storage Tank Program file #20070730_009).
- Shaw Environmental, Inc. Final 2003 Annual AS/SVE Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2004b. Contract No.: N62470-02-D-3260 (UST Management Web Portal file #2003_FINAL_HADNOT_POINT).
- Shaw Environmental, Inc. Final Annual Monitoring Report, Soil and Groundwater Remediation, Building 45—USTs S-941-1 and 941-2, Marine Corps Base Camp Lejeune, North Carolina; 2004c (UST Management Web Portal File #ILM00563).
- Shaw Environmental, Inc. 2004 Annual AS/SVE Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2005a (UST Management Web Portal file #HADNOT_PT_1115_SITES_FINAL_2004_ANNUAL_AS.SVE_MONITORING_REPORT).
- Shaw Environmental, Inc. 2004 Annual Monitoring Report, Building 820, Marine Corps Base Camp Lejeune, North Carolina; 2005b (UST Management Web Portal File #BUILDING_820_FINAL_2004_ANNUAL_MONITORING_REPORT).
- Shaw Environmental, Inc. 2004 Annual Monitoring Report, Building 1613, Marine Corps Base Camp Lejeune, North Carolina; 2005c (Leaking Underground Storage Tank Program File #BUILDING_1613_FINAL_2004_ANNUAL_MONITORING_REPORT).
- Shaw Environmental, Inc. Soil Contamination Report, Building 820, Marine Corps Air Station, Camp Lejeune, North Carolina; 2005d (UST Management Web Portal file #Soil_Contamination_Report_Bldg820_6-05).
- Shaw Environmental, Inc. 2005 Annual AS/SVE Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2006a. Contract No.: N62470-02-D-3260 (UST Management Web Portal file #HPFF_2005ASSVEMONRPT).
- Shaw Environmental, Inc. 2005 Annual Monitoring Report, Building 820, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2006b (UST Management Web Portal file #2005AMR_820).

References

- Shaw Environmental, Inc. 2006–2007 Annual AS/SVE Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2007a (UST Management Web Portal file #HPFF_2007AMR).
- Shaw Environmental, Inc. 2006–2007 Annual Monitoring Report, Building 820, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2007b (UST Management Web Portal file #820_2007AMR).
- Shaw Environmental, Inc. 2007–2008 Annual Monitoring Report, Building 820, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2008a (UST Management Web Portal file #2008_AMR_BM_820).
- Shaw Environmental, Inc. 2007–2008 Annual Remediation Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2008b (UST Management Web Portal file #HPFF_20072008_AMR_061608).
- Shaw Environmental, Inc. Final 2008–2009 Annual Monitoring Report, Building 645, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2009a. Contract No.: N62470-02-D-3260 (UST Management Web Portal File #Bldg645_2009FinalAMR_Shaw).
- Shaw Environmental, Inc. Final 2008–2009 Monitoring Report, Building 820, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2009b. Contract No.: N62470-02-D-3260 (UST Management Web Portal file #BM820_2009FinalAMR_Shaw).
- Shaw Environmental, Inc. Final 2008–2009 Monitoring Report, Building LCH-4015, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2009c. Contract No.: N62470-02-D-3260 (UST Management Web Portal file #LCH4015_2009FinalAMR_Shaw).
- Shaw Environmental, Inc. Final 2008–2009 Monitoring Report, Hadnot Point Fuel Farm/Building 1115 Sites, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina; 2009d. Contract No.: N62470-02-D-3260 (UST Management Web Portal file #HPFF_2009FinalAMR_Shaw).
- Shaw Environmental and Infrastructure, Inc. Final closure Report, UST-12 at Site 1323, Tank Removals and Upgrades, Marine Corps Base Camp Lejeune, North Carolina, Marine Corps Air Station New River, North Carolina, Rev. 2; 2011. Contract No.: N62470-08-D-1007 (UST Management Web Portal file #1323_UST12).
- Sovereign Consulting, Inc. Annual Groundwater Monitoring Report, FC-201E, Marine Corps Base Camp Lejeune, North Carolina; 2006a. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #FC201E_2006 AMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2005–2006, Building 45, Marine Corps Base Camp Lejeune, North Carolina; 2006b. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #Bldg45_2006 AMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2005–2006, Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2006c. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #645_2006 AMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2005–2006, Building 900, Marine Corps Base Camp Lejeune, North Carolina; 2006d (UST Management Web Portal file #900_2006AMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2005–2006, Building 1613, Marine Corps Base Camp Lejeune, North Carolina; 2006e (UST Management Web Portal file #1613_2006AMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2005–2006, LCH 4015, Marine Corps Base Camp Lejeune, North Carolina; 2006f (UST Management Web Portal file #LCH4015_2006AMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report, 2006, Michael Road Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina; 2006g. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #MRFF_2006AMR).
- Sovereign Consulting, Inc. FINAL—Annual Monitoring Report, S-2633, Gauging and Groundwater Sampling Event, October 2005–April 2006, Marine Corps Base Camp Lejeune, North Carolina; 2006h. Contract No.: N62470-04-D0205 (UST Management Web Portal file #S2633_2006AMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2006–2007, Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2007a. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #Bldg645FINALAMR2007).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2006–2007, Building 900, Marine Corps Base Camp Lejeune, North Carolina; 2007b. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #900AMRFINAL2007).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2006–2007, Building H-28, Marine Corps Base Camp Lejeune, North Carolina; 2007c. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #H28AMRFINAL2007).

- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2006–2007, Building LCH-4015, NCDENR Incident Number: 85352, Marine Corps Base Camp Lejeune, North Carolina; 2007d (UST Management Web Portal file #LCH4015FINALAMR2007).
- Sovereign Consulting, Inc. Soil and Groundwater Investigation, Summary Report, Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2007e (UST Management Web Portal file #BLDG645FINALREPORT20071018).
- Sovereign Consulting, Inc. Soil and Groundwater Investigation, Summary Report, Building LCH-4015, Marine Corps Base Camp Lejeune, North Carolina; 2007f (UST Management Web Portal file #LCH4015OCT2007INVESTREPORT).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2007–2008, Building 45, Marine Corps Base Camp Lejeune, North Carolina; 2008a. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #Bldg45FINALAMR).
- Sovereign Consulting, Inc. Final Annual Groundwater Monitoring Report 2007–2008, Building 645, Marine Corps Base Camp Lejeune, North Carolina; 2008b. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #645_2008FinalAMR).
- Sovereign Consulting, Inc. Final Annual Monitoring Report, Building 1613, Marine Corps Base Camp Lejeune, North Carolina; 2008c. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #1613FinalAMR2008).
- Sovereign Consulting, Inc. Final Annual Monitoring Report, Building LCH-4015, Marine Corps Base Camp Lejeune, North Carolina; 2008d. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #LCH40152008FINALAMR).
- Sovereign Consulting, Inc. FINAL—Annual Monitoring Report, S-2633, Gauging and Groundwater Sampling Event, June 2007–May 2008, Marine Corps Base Camp Lejeune, North Carolina; 2008e. Contract No.: N62470-04-D-0205 (UST Management Web Portal file #S2633AMRJUNE-2008FINAL).
- U.S. Environmental Protection Agency. How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites—A Guide for Corrective Action Plan Reviewers. Washington, DC: U.S. Environmental Protection Agency, Report No.: EPA 510-B-95-007; 2004 [cited 2010 January 26]; Available from <http://www.epa.gov/swerust1/pubs/tums.htm>
- U.S. Marine Corps Camp Lejeune. Project Management Files for Bldg 900, Marine Corps Base Camp Lejeune, North Carolina; 2000 (UST Management Web Portal file #1073).
- U.S. Marine Corps Camp Lejeune. Project Management Files for Bldg 1804/S, UST 1856-1, UST 1856-2, UST 1856-3, UST 1856-4, UST 1856-5, UST 1856-6, Marine Corps Base Camp Lejeune, North Carolina; 2001a (UST Management Web Portal file #1006).
- U.S. Marine Corps Camp Lejeune. Project Management Files for Bldg S-2633, Marine Corps Base Camp Lejeune, North Carolina; 2001b (UST Management Web Portal file #1138).
- U.S. Marine Corps Camp Lejeune. Project Management Files for Bldg SLCH-4019, Marine Corps Base Camp Lejeune, North Carolina; 2001c (UST Management Web Portal File #1144).
- U.S. Marine Corps Camp Lejeune. Project Management Files #1 for the Hadnot Point Fuel Farm; 2003a (UST Management Web Portal file #1185).
- U.S. Marine Corps Camp Lejeune. Project Management Files #2 for the Hadnot Point Fuel Farm; 2003b (UST Management Web Portal file #1186).
- UST Management Web Portal file, (file number and title vary and not consecutively available), provided to ATSDR in digital format by the Department of the Navy (Headquarters Marine Corps and Marine Corps Base Camp Lejeune) under terms of "For Official Use Only" (FOUO) documents, accessed 2010–2012.
- Versar, Inc. Final Site Assessment, Gottschalk Marina, Building 728, Marine Corps Base Camp Lejeune, Onslow County, North Carolina; 1992 (Leaking Underground Storage Tank Program file #735).
- Wiedemeier TH, Swanson MA, Moutoux DE, Gordon EK, Wilson JT, and Wilson BH. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater, Cincinnati: National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency; 1998. Report No.: EPA/600/R-98/128.

Tables D4–D7

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg20_MW01	28-Nov-00	<0.5	<0.5	<0.5	<0.5
Bldg21_RW01	19-May-92	<1.0	<1.0	<1.0	NA
Bldg21_DW01	19-May-92	<1.0	<1.0	<1.0	NA
Bldg21_DW02	19-May-92	<1.0	<1.0	4.0	NA
Bldg21_DW03	19-May-92	<1.0	<1.0	<1.0	NA
Bldg21_DW04	19-May-92	1.0	<1.0	<1.0	NA
Bldg21_MW01	28-Aug-91	140	9,600	1,800	10,000
	19-May-92	35	43	<1.0	NA
Bldg21_MW02	28-Aug-91	480	840	<5.0	6,600
	28-Aug-91	500	850	<5.0	4,800
	19-May-92	2,420	2,740	146	NA
Bldg21_MW03	19-May-92	2.0	<1.0	<1.0	NA
Bldg21_MW04	19-May-92	2.0	<1.0	<1.0	NA
Bldg21_MW05	19-May-92	<1.0	<1.0	<1.0	NA
Bldg21_MW06	19-May-92	<1.0	<1.0	<1.0	NA
Bldg21_MW07	19-May-92	<1.0	<1.0	<1.0	NA
Bldg21_MW08	19-May-92	<1.0	<1.0	<1.0	NA
Bldg21_MW09	19-May-92	12	<1.0	4.0	NA
Bldg21_MW12	17-Aug-99	<0.5	<0.5	<0.5	<1.0
Bldg21_MW14	17-Aug-99	<0.5	<0.5	<0.5	<1.0
Bldg21_MW17	17-Aug-99	69.9D	196D	106D	454D
Bldg24_MW01	25-Sep-01	<0.5	<0.5	<0.5	<0.5
	25-Sep-01	<0.5	<0.5	<0.5	<0.5
Bldg30_TMW11	29-Apr-08	<0.5	<0.5	<0.5	<0.5
Bldg30_TMW24	29-Apr-08	6.56D	82.9D	53.9D	253.4D
Bldg33_HP02	17-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg33_HP03	17-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg33_HP04	17-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg33_HP05	17-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg33_MW01	09-Aug-94	<1.0	<1.0	<1.0	<1.0
	13-Mar-95	0.7	<0.5	1.5	2.2
	13-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg33_MW02	09-Aug-94	<1.0	<1.0	<1.0	<1.0
	13-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg33_MW03	09-Aug-94	<1.0	<1.0	<1.0	<1.0
	09-Aug-94	<1.0	<1.0	<1.0	<1.0
	13-Mar-95	0.7	<0.5	1.4	2.4
Bldg33_MW04	04-Apr-95	<0.17	<0.2	<0.19	<0.36
Bldg33_MW05	04-Apr-95	<0.17	<0.2	<0.19	<0.36
Bldg33_MW06	04-Apr-95	<0.17	<0.2	<0.19	<0.36
Bldg33_MW07	04-Apr-95	<0.17	<0.2	<0.19	<0.36
	04-Apr-95	<0.17	<0.2	<0.19	<0.36

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg33_MW08	04-Apr-95	<0.17	<0.2	<0.19	<0.36
Bldg33_MW11	04-Apr-95	<0.17	<0.2	<0.19	<0.36
Bldg45_HP01 (Law)	08-Dec-92	<0.5	<0.5	<0.5	ND
Bldg45_HP02 (Law)	16-Dec-92	NA	NA	NA	NA
Bldg45_HP03 (Law)	09-Dec-92	<0.5	1.3	<0.5	ND
Bldg45_HP04 (Law)	09-Dec-92	64	83	3.2	17
Bldg45_HP05 (Law)	09-Dec-92	<2.5	0.7	<0.5	ND
Bldg45_HP06 (Law)	10-Dec-92	<0.5	<0.5	<0.5	ND
Bldg45_HP07 (Law)	10-Dec-92	<0.5	0.6	<0.5	ND
Bldg45_HP08 (Law)	10-Dec-92	<0.5	0.6	<0.5	ND
Bldg45_HP09 (Law)	10-Dec-92	1.0	1.3	<0.5	ND
Bldg45_HP10 (Law)	11-Dec-92	<0.5	0.9	<0.5	ND
45-1-MW01 (Wright)	23-Jun-94	5.4	<1.0	<1.0	<1.0
	14-Jan-99	2.0	ND	ND	ND
	12-Apr-99	4.0	ND	ND	ND
	12-Jul-99	1.0	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	2.0	ND	ND	ND
	18-Jul-00	2.0	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND
	05-Nov-01	NA	NA	NA	NA
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
	30-Sep-03	<1.0	<1.0	<1.0	<3.0
	30-Sep-03	<1.0	<1.0	<1.0	<3.0
	15-Dec-03	<1.0	<1.0	<1.0	<3.0
09-Mar-04	<1.0	<1.0	<1.0	<3.0	
15-Jul-04	<1.0	<1.0	<1.0	<3.0	
22-Sep-04	<1.0	<1.0	<1.0	<3.0	
20-Dec-04	<1.0	<1.0	<1.0	<3.0	
02-Mar-05	<1.0	<1.0	<1.0	<3.0	
14-Jun-05	<1.0	<1.0	<1.0	<3.0	
27-Oct-05	<1.0	<1.0	<1.0	<2.0	
06-Apr-06	<1.0	<1.0	<1.0	<2.0	
01-Aug-06	<1.0	<1.0	<1.0	<2.0	
01-Nov-06	<1.0	<1.0	<1.0	<2.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
45-1-MW01 (Wright)—Cont.	01-Jan-07	<1.0	1.24	0.35J	0.89J
	20-Jun-07	<1.0	<1.0	<1.0	<2.0
	19-Dec-07	<1.0	<1.0	<1.0	<2.0
45-1-MW02 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0
	14-Oct-98	480	ND	33	50
	14-Oct-98	430	ND	29	41
	04-Jan-99	710	56	ND	ND
	14-Jan-99	630	50	ND	ND
	12-Apr-99	1,100	590	610	3,700
	12-Apr-99	400	37	100	230
	12-Jul-99	650	100	120	90
	12-Jul-99	590	92	110	73
	12-Oct-99	200	49	40	78
	12-Oct-99	410	81	85	150
	01-Feb-00	350	ND	ND	ND
	01-Feb-00	360	ND	45	ND
	12-Apr-00	190	ND	36	69
	12-Apr-00	170	ND	31	63
	18-Jul-00	300	40	89	200
	18-Jul-00	360	69	260	633
	11-Oct-00	110	9.0	61	24
	11-Oct-00	110	30	53	36
	31-Jan-01	140	12	79	171
	31-Jan-01	140	12	81	161
	16-Apr-01	160	14	82	43
	16-Apr-01	160	13	79	41
	17-Jul-01	300	31	100	240
	17-Jul-01	350	32	64	95
	16-Oct-01	46	7.0	20	16
	16-Oct-01	42	3.0	13	11
05-Nov-01	NA	NA	NA	NA	
16-Jan-02	190	ND	4.0	ND	
16-Jan-02	200	ND	4.0	ND	
17-Apr-02	5.0	ND	ND	ND	
17-Apr-02	36	2.0	3.0	ND	
17-Jul-02	ND	ND	ND	ND	
45-1-MW03 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0
	22-Jun-98	44	ND	7.0	ND
	17-Jul-98	17	ND	8.0	8.0
	14-Oct-98	58	ND	ND	ND
	14-Jan-99	61	ND	26	65
	12-Apr-99	390	550	560	2,050

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
45-1-MW03 (Wright)—Cont.	12-Jul-99	59	31	22	95
	12-Jul-99	230	80	60	230
	12-Oct-99	13	1.0	3.0	5.0
	12-Oct-99	1,600	3,900	980	5,080
	01-Feb-00	18	2.0	7.0	16
	01-Feb-00	17	1.0	7.0	16
	12-Apr-00	23	ND	4.0	3.0
	12-Apr-00	190	ND	290	170
	18-Jul-00	17	2.0	34	82
	18-Jul-00	67	ND	21	ND
	11-Oct-00	6.0	ND	ND	ND
	11-Oct-00	21	2.0	4.0	10
	31-Jan-01	38	13	12	34
	31-Jan-01	2.0	ND	ND	ND
	16-Apr-01	3.0	ND	2.0	ND
	16-Apr-01	44	16	17	51
	17-Jul-01	150	7.0	33	42
	16-Oct-01	ND	ND	2.0	ND
	16-Oct-01	11	ND	ND	ND
	05-Nov-01	NA	NA	NA	NA
	16-Jan-02	ND	ND	5.0	ND
	16-Jan-02	13	ND	1.0	ND
	17-Apr-02	36	2.0	3.0	ND
17-Apr-02	55	ND	5.0	ND	
17-Jul-02	16	ND	ND	ND	
45-1-MW04 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	16-Jul-98	ND	ND	ND	ND
	14-Oct-98	ND	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
45-1-MW04 (Wright)—Cont.	05-Nov-01	NA	NA	NA	NA
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
	30-Sep-03	<1.0	<1.0	<1.0	<3.0
	15-Dec-03	<1.0	<1.0	<1.0	<3.0
	15-Dec-03	<1.0	<1.0	<1.0	<1.0
	09-Mar-04	<1.0	<1.0	<1.0	<3.0
	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	22-Sep-04	<1.0	<1.0	<1.0	<3.0
	21-Dec-04	<1.0	<1.0	<1.0	<3.0
	02-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	27-Oct-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	0.201J	<1.0	<2.0
	01-Jan-07	<1.0	1.22	0.37J	0.96J
	20-Jun-07	<1.0	<1.0	<1.0	<2.0
20-Jun-07	<1.0	<1.0	<1.0	<2.0	
19-Dec-07	<1.0	<1.0	<1.0	<2.0	
45-1-MW05 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0
Bldg45_MW01 (ATEC)	27-Aug-91	9,800D	16,000D	1,000D	4,700D
Bldg45_MW02 (ATEC)	27-Aug-91	220	52	<5.0	59
	27-Aug-91	290	69	<5.0	83
Bldg45_MW03 (ATEC)	27-Aug-91	10	<5.0	<5.0	22
Bldg45_MW04 (Law)	05-Jan-93	<0.5	<0.5	<0.5	<1.0
	04-Nov-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	<1.0	<1.0	<2.0
Bldg45_MW05 (Law)	05-Jan-93	<0.5	<0.5	<0.5	<1.0
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	04-Nov-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	<1.0	<1.0	<2.0
Bldg45_MW06 (Law)	05-Jan-93	<0.5	<0.5	<0.5	<1.0
	02-Nov-05	<1.0	<1.0	<1.0	<2.0
	07-Apr-06	<1.0	<1.0	<1.0	<2.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW06 (Law)—Cont.	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	1.15	<1.0	<2.0
	20-Jun-07	<1.0	<1.0	<1.0	<2.0
Bldg45_MW07 (Law)	05-Jan-93	<0.5	<0.5	<0.5	<1.0
	06-Aug-01	<0.16	NA	<0.12	<0.33
	14-Jul-04	<1.0	<1.0	<1.0	<3.0
	13-Sep-04	<1.0	<1.0	<1.0	<3.0
	21-Dec-04	<1.0	<1.0	<1.0	<3.0
	03-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	02-Nov-05	<1.0	<1.0	<1.0	<2.0
	10-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	1.2	<1.0	<2.0
Bldg45_MW08 (Law)	05-Jan-93	<0.5	<0.5	<0.5	<1.0
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	14-Oct-98	ND	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	06-Aug-01	<0.16	NA	<0.12	<0.33
	16-Oct-01	ND	ND	ND	ND
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
29-Sep-03	<1.0	<1.0	<1.0	<3.0	
29-Sep-03	<1.0	<1.0	<1.0	<3.0	
12-Dec-03	<1.0	<1.0	<1.0	<3.0	
08-Mar-04	<1.0	<1.0	<1.0	<3.0	
14-Jul-04	<1.0	<1.0	<1.0	<3.0	
22-Sep-04	<1.0	<1.0	<1.0	<3.0	
21-Dec-04	<1.0	<1.0	<1.0	<3.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW08 (Law)—Cont.	04-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	02-Nov-05	<1.0	<1.0	<1.0	<2.0
	07-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	1.36	<1.0	<2.0
Bldg45_MW09 (Law)	05-Jan-93	<0.5	<0.5	<0.5	<1.0
	14-Oct-98	ND	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	3.0	ND	ND	ND
	12-Jul-99	7.0	ND	ND	ND
	12-Oct-99	5.0	ND	ND	ND
	01-Feb-00	11	ND	ND	ND
	12-Apr-00	11	ND	ND	ND
	18-Jul-00	11	ND	ND	ND
	11-Oct-00	10	ND	ND	ND
	31-Jan-01	10	ND	ND	ND
	16-Apr-01	12	ND	ND	ND
	17-Jul-01	15	ND	ND	ND
	05-Aug-01	<0.16	NA	<0.12	<0.33
	16-Oct-01	13	ND	ND	ND
	16-Jan-02	15	ND	ND	ND
	17-Apr-02	19	ND	1.0	ND
	17-Jul-02	15	ND	ND	ND
	29-Sep-03	16.6	<1.0	0.72J	<3.0
	29-Sep-03	16.6	<1.0	0.72J	<3.0
	15-Dec-03	16.4	<1.0	0.78J	<3.0
	29-Apr-04	12.4	0.57J	2.0	3.87
	14-Jul-04	9.1	<1.0	<1.0	<3.0
	14-Jul-04	9.3	<1.0	<1.0	<1.0
	13-Sep-04	8.2	<1.0	<1.0	<3.0
	21-Dec-04	6.7	<1.0	<1.0	<3.0
	03-Mar-05	5.0	<1.0	<1.0	<3.0
	14-Jun-05	4.6	<1.0	<1.0	<3.0
	14-Jun-05	4.5	<1.0	<1.0	<1.0
	02-Nov-05	4.69	<1.0	<1.0	<2.0
	06-Apr-06	5.87	<1.0	<1.0	<2.0
	01-Aug-06	6.17	<1.0	<1.0	<2.0
01-Aug-06	6.16	<1.0	<1.0	<2.0	
01-Nov-06	6.03	1.32	0.319J	1.979J	
01-Nov-06	6.02	1.2	0.298J	0.689J	
01-Jan-07	4.99	1.79	0.45J	0.87J	
01-Jan-07	5.08	1.57	0.41J	0.78J	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW09 (Law)—Cont.	19-Jun-07	5.19	0.38J	0.61J	1.72J
	19-Dec-07	<1.0	<1.0	<1.0	<2.0
	19-Dec-07	<1.0	0.11J	<1.0	<2.0
Bldg45_MW10 (Law)	05-Jan-93	<0.5	<0.5	1.6	1.6
	14-May-98	ND	ND	ND	ND
	22-Jun-98	1.0	ND	ND	ND
	17-Jul-98	24	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	14-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	4.0
	18-Jul-00	7.0	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	05-Aug-01	<0.16	NA	<0.12	<0.33
16-Oct-01	ND	ND	ND	ND	
16-Jan-02	ND	ND	ND	ND	
17-Apr-02	ND	ND	ND	ND	
Bldg45_MW11 (Law)	02-Dec-93	ND	ND	ND	ND
Bldg45_MW12 (Law)	02-Dec-93	ND	ND	ND	ND
	14-Apr-98	ND	ND	ND	ND
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	04-Nov-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
01-Aug-06	<1.0	<1.0	<1.0	<2.0	
01-Nov-06	<1.0	<1.0	<1.0	<2.0	
Bldg45_MW13 (Law)	02-Dec-93	ND	ND	ND	ND
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
11-Oct-00	ND	ND	ND	ND	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW13 (Law)—Cont.	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
	30-Sep-03	<1.0	<1.0	<1.0	<3.0
	12-Dec-03	<1.0	<1.0	<1.0	<3.0
	08-Mar-04	<1.0	<1.0	<1.0	<3.0
	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	22-Sep-04	<1.0	<1.0	<1.0	<3.0
	20-Dec-04	<1.0	<1.0	<1.0	<3.0
	03-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	27-Oct-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	<1.0	<1.0	<2.0
	01-Jan-07	<1.0	0.69J	<1.0	<2.0
20-Jun-07	<1.0	<1.0	<1.0	<2.0	
19-Dec-07	<1.0	<1.0	<1.0	<2.0	
Bldg45_MW14 (Law)	11-Jan-94	ND	ND	ND	ND
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	14-Oct-98	ND	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
	30-Sep-03	<1.0	<1.0	<1.0	<3.0
	15-Dec-03	<1.0	<1.0	<1.0	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW14 (Law)—Cont.	09-Mar-04	<1.0	<1.0	<1.0	<3.0
	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	13-Sep-04	<1.0	<1.0	<1.0	<3.0
	20-Dec-04	<1.0	<1.0	<1.0	<3.0
	03-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	28-Oct-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	<1.0	<1.0	<2.0
	01-Jan-07	<1.0	0.89J	<1.0	<2.0
20-Jun-07	<1.0	<1.0	<1.0	<2.0	
Bldg45_MW15 (Law)	11-Jan-94	3,800	1,700	800	3,600
	14-May-98	2,000	1,700	970	3,680
	14-May-98	2,000	1,700	920	3,550
	22-Jun-98	1,500	1,100	870	4,010
	22-Jun-98	1,500	1,500	820	3,910
	17-Jul-98	1,500	770	960	4,210
	17-Jul-98	1,500	870	990	4,330
	14-Oct-98	1,500	ND	630	3,500
	14-Oct-98	1,600	ND	660	3,730
	14-Jan-99	1,500	ND	720	4,400
	14-Jan-99	1,500	ND	710	4,500
	12-Apr-99	470	220	180	900
	12-Apr-99	410	35	110	240
	28-Jul-99	890	480	420	3,200
	12-Oct-99	1,800	4,200	1,000	5,410
	07-Mar-00	130	ND	160	100
	12-Apr-00	160	ND	250	140
	18-Jul-00	61	ND	25	ND
	11-Oct-00	6.0	ND	ND	ND
	31-Jan-01	2.0	ND	ND	ND
	16-Apr-01	2.0	ND	2.0	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	2.0	ND
	05-Nov-01	NA	ND	ND	ND
	16-Jan-02	ND	ND	5.0	ND
	17-Apr-02	5.0	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
30-Sep-03	<1.0	<1.0	<1.0	<3.0	
15-Dec-03	<1.0	<1.0	<1.0	<3.0	
09-Mar-04	<1.0	<1.0	<1.0	<3.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW15 (Law)—Cont.	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	22-Sep-04	<1.0	<1.0	<1.0	<3.0
	20-Dec-04	<1.0	<1.0	<1.0	<3.0
	03-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	28-Oct-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	<1.0	<1.0	<2.0
	01-Jan-07	<1.0	1.05J	<1.0	<2.0
	20-Jun-07	<1.0	<1.0	<1.0	<2.0
	19-Dec-07	<1.0	0.26J	<1.0	<2.0
Bldg45_MW16 (Law)	03-Dec-93	ND	0.7	ND	1.3
	11-Jan-94	ND	0.7	ND	1.3
	23-Jun-94	<1.0	<1.0	<1.0	<1.0
	14-Apr-98	1,400	ND	610	2,500
	14-May-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	14-Oct-98	ND	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	NA	NA	NA	NA
	07-Mar-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND
	05-Nov-01	NA	NA	NA	NA
16-Jan-02	ND	ND	ND	ND	
17-Apr-02	ND	ND	ND	ND	
17-Jul-02	ND	ND	ND	ND	
30-Sep-03	<1.0	<1.0	<1.0	<3.0	
Bldg45_MW17 (Law)	11-Jan-94	ND	ND	ND	ND
	14-Apr-98	ND	ND	ND	ND
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	14-Oct-98	ND	ND	ND	ND

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW17 (Law)—Cont.	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	NA	NA	NA	NA
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND
	05-Nov-01	NA	NA	NA	NA
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
	29-Sep-03	<1.0	<1.0	<1.0	<3.0
	29-Sep-03	<1.0	<1.0	<1.0	<3.0
	12-Dec-03	<1.0	<1.0	<1.0	<3.0
	08-Mar-04	<1.0	<1.0	<1.0	<3.0
	14-Jul-04	<1.0	<1.0	<1.0	<3.0
	13-Sep-04	<1.0	<1.0	<1.0	<3.0
	21-Dec-04	<1.0	<1.0	<1.0	<3.0
	03-Mar-05	<1.0	<1.0	<1.0	<3.0
14-Jun-05	<1.0	<1.0	<1.0	<3.0	
04-Nov-05	<1.0	<1.0	<1.0	<2.0	
07-Apr-06	<1.0	<1.0	<1.0	<2.0	
01-Aug-06	<1.0	<1.0	<1.0	<2.0	
01-Nov-06	<1.0	0.94J	<1.0	<2.0	
Bldg45_MW18 (Law)	11-Jan-94	1,200	74	84	230
	14-May-98	76	ND	ND	ND
	22-Jun-98	91	ND	ND	ND
	17-Jul-98	56	ND	ND	ND
	14-Oct-98	29	ND	ND	ND
	14-Jan-99	18	ND	ND	ND
	12-Apr-99	13	ND	ND	ND
	12-Jul-99	4.0	ND	ND	ND
	12-Oct-99	NA	NA	NA	NA
	07-Mar-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW18 (Law)—Cont.	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND
	05-Nov-01	NA	NA	NA	NA
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
	30-Sep-03	<1.0	<1.0	<1.0	<3.0
	12-Dec-03	<1.0	<1.0	<1.0	<3.0
	08-Mar-04	<1.0	<1.0	<1.0	<3.0
	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	22-Sep-04	<1.0	<1.0	<1.0	<3.0
	20-Dec-04	<1.0	<1.0	<1.0	<3.0
	04-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	03-Nov-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	<1.0	<1.0	<2.0
Bldg45_MW19 (Law)	11-Jan-94	ND	ND	ND	ND
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	17-Jul-99	ND	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	14-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND
	05-Nov-01	NA	NA	NA	NA
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
17-Jul-02	ND	ND	ND	ND	
30-Sep-03	<1.0	<1.0	<1.0	<3.0	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW19 (Law)—Cont.	12-Dec-03	<1.0	<1.0	<1.0	<3.0
	08-Mar-04	<1.0	<1.0	<1.0	<3.0
	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	13-Sep-04	<1.0	<1.0	<1.0	<3.0
	20-Dec-04	<1.0	<1.0	<1.0	<3.0
	03-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	03-Nov-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	1.2	<1.0	<2.0
Bldg45_MW20 (Law)	11-Jan-94	ND	8.2	4.8	ND
	14-May-98	ND	ND	ND	ND
	22-Jun-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	14-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	ND	ND	ND	ND
	12-Oct-99	ND	ND	ND	ND
	14-Oct-99	ND	ND	ND	ND
	01-Feb-00	ND	ND	ND	ND
	12-Apr-00	ND	ND	ND	ND
	18-Jul-00	ND	ND	ND	ND
	11-Oct-00	ND	ND	ND	ND
	31-Jan-01	ND	ND	ND	ND
	16-Apr-01	ND	ND	ND	ND
	17-Jul-01	ND	ND	ND	ND
	16-Oct-01	ND	ND	ND	ND
	05-Nov-01	NA	NA	NA	NA
	16-Jan-02	ND	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
	17-Jul-02	ND	ND	ND	ND
	30-Sep-03	<1.0	<1.0	<1.0	<3.0
	15-Dec-03	<1.0	<1.0	<1.0	<3.0
	08-Mar-04	<1.0	<1.0	<1.0	<3.0
	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	13-Sep-04	<1.0	<1.0	<1.0	<3.0
	21-Dec-04	<1.0	<1.0	<1.0	<3.0
03-Mar-05	<1.0	<1.0	<1.0	<3.0	
14-Jun-05	<1.0	<1.0	<1.0	<3.0	
04-Nov-05	<1.0	<1.0	<1.0	<2.0	
06-Apr-06	<1.0	<1.0	<1.0	<2.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_MW20 (Law)—Cont.	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	1.01	<1.0	<2.0
Bldg45_MW21 (Law)	11-Jan-94	ND	ND	ND	ND
	15-Jul-04	<1.0	<1.0	<1.0	<3.0
	13-Sep-04	<1.0	<1.0	<1.0	<3.0
	20-Dec-04	<1.0	<1.0	<1.0	<3.0
	03-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	27-Oct-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	0.694J	<1.0	<2.0
	01-Jan-07	<1.0	1.27J	0.24J	0.45J
	20-Jun-07	<1.0	<1.0	<1.0	<2.0
	19-Dec-07	0.15J	<1.0	<1.0	<2.0
Bldg45_MW22 (Law)	11-Jan-94	ND	ND	ND	ND
Bldg45_MW23 (E&E)	04-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	03-Nov-05	<1.0	<1.0	<1.0	<2.0
	07-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	1.4	<1.0	<2.0
Bldg45_MW24 (E&E)	04-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	03-Nov-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	0.378J	<1.0	<2.0
Bldg45_PW01 (Law)	05-Jan-93	87	700	70	1,900
	22-Jun-98	ND	ND	ND	ND
	17-Jul-98	ND	ND	ND	ND
	14-Oct-98	ND	ND	ND	ND
	04-Jan-99	ND	ND	ND	ND
	12-Apr-99	ND	ND	ND	ND
	12-Jul-99	82	17	14	11
	12-Oct-99	110	13	30	ND
	01-Feb-00	35	3.0	10	2.0
	12-Apr-00	61	2.0	9.0	ND
	18-Jul-00	23	ND	3.0	2.0
	11-Oct-00	130	ND	31	ND
	31-Jan-01	38	ND	5.0	ND
	16-Apr-01	60	2.0	7.0	5.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg45_PW01 (Law)—Cont.	17-Jul-01	100	6.0	22	13
	16-Oct-01	25	ND	2.0	ND
	16-Jan-02	13	ND	ND	ND
	17-Apr-02	ND	ND	ND	ND
Bldg45_PW02 (E&E)	04-Mar-05	<1.0	<1.0	<1.0	<3.0
	14-Jun-05	<1.0	<1.0	<1.0	<3.0
	03-Nov-05	<1.0	<1.0	<1.0	<2.0
	06-Apr-06	<1.0	<1.0	<1.0	<2.0
	01-Aug-06	<1.0	<1.0	<1.0	<2.0
	01-Nov-06	<1.0	1.25	<1.0	<2.0
Bldg61_MW01	15-Oct-93	<1.0	<1.0	<1.0	<1.0
Bldg61_MW02	15-Oct-93	<1.0	<1.0	<1.0	<1.0
Bldg61_MW03	15-Oct-93	<1.0	<1.0	<1.0	<1.0
Bldg311_MW06	14-Nov-00	30D	6.0D	63D	490D
	14-Nov-00	11D	<4.0D	23D	176D
Bldg331_HP01	15-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP02	15-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP03	15-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP04	15-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP05	15-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP06	15-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP07	15-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP08	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP09	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP10	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP11	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP12	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP13	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP14	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_HP15	16-Mar-95	<0.5	<0.5	<0.5	<1.5
Bldg331_MW01	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW02	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW03	13-Apr-95	<0.05	0.29	<0.06	1.0
Bldg331_MW04	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW05	13-Apr-95	<0.05	<0.08	<0.06	2.4
Bldg331_MW06	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW07	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW08	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW09	13-Apr-95	<0.05	<0.08	<0.06	<0.17

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg331_MW10	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW11	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW12	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW13	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW14	13-Apr-95	<0.05	<0.08	<0.06	<0.17
Bldg331_MW15	13-Apr-95	<0.05	0.62	0.33	1.6
Bldg331_PW16	13-Apr-95	<0.05	0.49	<0.06	1.9
Bldg575_MW01	8/25/1997	<0.50	<0.50	<0.50	<1.5
Bldg645_DP01	12-Feb-96	<0.5	0.5	<0.5	<1.5
Bldg645_DP02	12-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg645_DP03	12-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg645_DP04	12-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg645_DP05	12-Feb-96	<0.5	1.7	<0.5	<1.5
Bldg645_HP01	20-Oct-94	4.1	4.8	0.7	3.0
Bldg645_HP02	20-Oct-94	<0.5	<0.5	<0.5	<1.5
Bldg645_HP03	20-Oct-94	<25	57	222	544
Bldg645_HP04	21-Oct-94	8.6	<0.5	10.2	5.6
Bldg645_HP05	24-Oct-94	<0.5	<0.5	<0.5	<1.5
Bldg645_HP06	24-Oct-94	<0.5	<0.5	<0.5	<1.5
Bldg645_HP07	25-Oct-94	14.3	0.7	<1.5	<1.5
Bldg645_HP08	25-Oct-94	<0.5	0.7	<0.5	<1.5
Bldg645_HP09	25-Oct-94	3.7	12.6	10.2	34.5
Bldg645_HP10	17-Nov-94	1.3	0.5	<0.5	<1.5
Bldg645_MW01	28-Oct-93	3,550	3,580	2,320	1,490
	28-Oct-93	2,990	17,400	1,880	1,750
	21-Oct-94	948	17,700	6,930	35,100
	29-Jul-98	<100	1,200	1,000	4,800
	27-Oct-98	100	2,000	1,600	7,800
	24-Nov-98	<200	4,100	2,200	12,700
	16-Dec-98	<100	2,400	900	9,300
	11-Mar-99	<125	2,400	1,400	12,900
	10-Jun-99	<80	1,100	590	5,900
	26-Sep-03	<1.0	113	81.1	334
	08-Dec-03	<1.0	81.2	94.3	273
	10-Mar-04	2.4	54	99.8	307
	10-Jun-04	0.5J	7.8	20.3	46
	14-Sep-04	3.0	82.8	107	300
	07-Dec-04	1.5	10.9	22.3	41.5
	07-Dec-04	0.98J	0.82J	10	55.2
	09-Mar-05	<1.0	2.2	2.0	5.6

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW01—Cont.	21-Jun-05	0.93J	12.7	11.9	24.3
	22-Sep-05	2.0	27.9	35.2	64.7
	16-Jan-06	<1.0	<1.0	<1.0	<2.0
	18-Apr-06	0.587J	9.38	15.6	22.78
	26-Jul-06	1.98	25.6	25.1	50.2
	09-Jan-07	1.29J	56.6	45	92.7
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
	23-Jan-08	<1.0	12.1	15.1	18.35
Bldg645_MW02	28-Oct-93	630	4,340	1,040	5,545
	21-Oct-94	112	1,290	481	2,190
	29-Jul-98	<20	270	320	2,050
	27-Oct-98	<80	420	680	4,500
	24-Nov-98	<50	680	650	4,800
	16-Dec-98	<40	380	320	2,520
	11-Mar-99	<50	340	570	3,000
	10-Jun-99	<50	520	720	4,400
	26-Sep-03	<1.0	18.8	80.2	670
	08-Dec-03	2.4	28.2	110	716
	10-Mar-04	<5.0	16.7	81.8	481
	09-Jun-04	2.9J	17.3	81.1	452
	14-Sep-04	<5.0	13.5	77.9	479
	07-Dec-04	<3.0	3.4	29.3	136
	09-Mar-05	1.5	3.7	30.5	135
	21-Jun-05	<2.0	5.7	44	213
	22-Sep-05	0.73J	9.3	53.8	240
	16-Jan-06	<1.0	<1.0	0.366J	<2.0
	18-Apr-06	<1.0	<1.0	0.366J	<2.0
	26-Jul-06	<1.0	0.812J	0.6J	2.483
09-Jan-07	<1.0	<1.0	<1.0	<2.0	
18-Jul-07	<1.0	<1.0	<1.0	<2.0	
23-Jan-08	<1.0	<1.0	<1.0	<2.0	
Bldg645_MW03	04-Nov-93	1,010	10,700	1,930	131,000
	21-Oct-94	1,330	15,600	3,090	15,200
	29-Jul-98	<25	260	550	2,560
	27-Oct-98	20	150	260	940
	24-Nov-98	39	270	210	1,190
	16-Dec-98	44	660	230	1,610
	11-Mar-99	<50	450	320	3,200
	11-Jun-99	<20	170	92	1,310
	26-Sep-03	<1.0	0.76J	6.4	22.82
	09-Dec-03	0.94J	1.6	22.1	52.5
	10-Mar-04	1.2	5.2	28.1	109

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW03—Cont.	10-Jun-04	0.63J	0.9J	18.5	20.4
	15-Sep-04	0.98J	4.9	26.3	88.1
	07-Dec-04	0.64J	1.4	20	15.8
	10-Mar-05	<1.0	2.5	13.2	23.1
	21-Jun-05	0.53J	0.57J	18.6	8.7
	22-Sep-05	<1.0	<1.0	5.0	2.7J
	16-Jan-06	<1.0	1.82	16.1	13.87
	18-Apr-06	0.479J	<1.0	20.4	<2.0
	25-Jul-06	0.668J	1.93	24.7	14.75
	18-Jul-07	<1.0	<1.0	11	<2.0
	23-Jan-08	<1.0	<1.0	<1.0	<2.0
	Bldg645_MW04	25-Oct-94	<0.5	<0.5	<0.5
29-Jul-98		<1.0	<1.0	<1.0	<2.0
28-Oct-98		<1.0	<1.0	<1.0	<2.0
23-Nov-98		<1.0	<1.0	<1.0	<2.0
15-Dec-98		<1.0	<1.0	<1.0	<2.0
11-Mar-99		<1.0	<1.0	<1.0	<2.0
10-Jun-99		ND	ND	ND	ND
14-Jun-04		<1.0	<1.0	<1.0	<3.0
21-Jun-05		<1.0	8.1	<1.0	<3.0
18-Jul-07		<1.0	<1.0	<1.0	<2.0
Bldg645_MW05	02-Nov-94	<0.5	<0.5	<0.5	<1.5
	29-Jul-98	<1.0	<1.0	<1.0	<2.0
	27-Oct-98	<1.0	<1.0	<1.0	<2.0
	24-Nov-98	<1.0	<1.0	<1.0	<2.0
	16-Dec-98	<1.0	<1.0	<1.0	<2.0
	10-Mar-99	<1.0	<1.0	<1.0	<2.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	14-Jun-04	<1.0	<1.0	<1.0	<3.0
	20-Jun-05	<1.0	<1.0	<1.0	<3.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW06	09-Nov-94	<0.5	<0.5	<0.5	<1.5
	30-Jul-98	<1.0	<1.0	<1.0	<2.0
	28-Oct-98	<1.0	<1.0	<1.0	<2.0
	23-Nov-98	<1.0	<1.0	<1.0	<2.0
	15-Dec-98	<1.0	<1.0	<1.0	<2.0
	10-Mar-99	<1.0	<1.0	<1.0	<2.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	10-Dec-03	<1.0	<1.0	<1.0	2.3
	14-Jun-04	<1.0	<1.0	<1.0	<3.0
	08-Dec-04	<1.0	<1.0	<1.0	<3.0
	20-Jun-05	<1.0	<1.0	<1.0	<3.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW07	29-Jul-98	<1.0	<1.0	<1.0	<2.0
	14-Jun-04	0.79J	<1.0	<1.0	4.1
	23-Jun-05	<1.0	<1.0	<1.0	<3.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW08	29-Jul-98	<1.0	<1.0	<1.0	<2.0
	27-Oct-98	<1.0	<1.0	<1.0	<2.0
	24-Nov-98	<1.0	<1.0	<1.0	<2.0
	17-Dec-98	<1.0	<1.0	<1.0	<2.0
	10-Mar-99	<1.0	<1.0	<1.0	<2.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	11-Jun-04	<1.0	<1.0	<1.0	<3.0
	20-Jun-05	<1.0	<1.0	<1.0	<3.0
17-Jul-07	<1.0	<1.0	<1.0	<2.0	
Bldg645_MW09	09-Nov-94	149	0.9	83.4	45.2
	29-Jul-98	180	1,300	220	1,610
	27-Oct-98	64	480	260	580
	24-Nov-98	21	30	83	54
	17-Dec-98	35	130	150	129
	11-Mar-99	3.0	2.0	13	<2.0
	11-Jun-99	<1.0	<1.0	<1.0	<2.0
	26-Sep-03	<1.0	<1.0	<1.0	<3.0
	09-Dec-03	<1.0	0.94J	0.87J	1.4J
	10-Mar-04	<1.0	<1.0	<1.0	<3.0
	10-Jun-04	<1.0	<1.0	<1.0	<3.0
	14-Sep-04	<1.0	<1.0	<1.0	<3.0
	07-Dec-04	<1.0	<1.0	<1.0	<3.0
	10-Mar-05	<1.0	<1.0	<1.0	<3.0
	20-Jun-05	<1.0	<1.0	<1.0	<3.0
	22-Sep-05	<1.0	<1.0	<1.0	<3.0
	17-Jan-06	<1.0	<1.0	<1.0	<2.0
	18-Apr-06	<1.0	<1.0	0.366J	<2.0
25-Jul-06	<1.0	1.2	<1.0	1.3J	
18-Jul-07	<1.0	<1.0	<1.0	<2.0	
23-Jan-08	<1.0	<1.0	<1.0	<2.0	
Bldg645_MW10	09-Nov-94	<0.5	2.2	0.5	1.8
	29-Jul-98	<1.0	<1.0	<1.0	<2.0
	28-Oct-98	2.0	4.0	<1.0	3.0
	23-Nov-98	1.0	<1.0	<1.0	<2.0
	16-Dec-98	1.0	<1.0	<1.0	<2.0
	11-Mar-99	3.0	<1.0	<1.0	<2.0
	10-Jun-99	2.0	<1.0	<1.0	<2.0
	14-Jun-04	<1.0	<1.0	<1.0	<3.0

Table D4

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW10—Cont.	23-Jun-05	<1.0	<1.0	<1.0	<3.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW11	09-Nov-94	3.0	7.2	2.2	5.0
	29-Jul-98	<1.0	<1.0	<1.0	<2.0
	27-Oct-98	<40	<40	<40	<80
	24-Nov-98	1.0	<1.0	<1.0	<2.0
	17-Dec-98	<1.0	<1.0	<1.0	<2.0
	10-Mar-99	<1.0	<1.0	<1.0	<2.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	10-Dec-03	<1.0	0.94J	0.87J	1.4J
	11-Jun-04	<1.0	<1.0	<1.0	<3.0
	07-Dec-04	<1.0	<1.0	<1.0	<3.0
	20-Jun-05	<1.0	<1.0	<1.0	<3.0
	17-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW12	09-Nov-94	3,650	19,100	2,280	10,300
	28-Jul-98	<400	6,400	1,300	6,400
	27-Oct-98	270	5,400	1,200	5,400
	24-Nov-98	<80	1,100	290	1,470
	17-Dec-98	11	170	27	165
	11-Mar-99	27	440	130	840
	11-Jun-99	31	430	150	930
	26-Sep-03	<1.0	7.9	9.6	55.5
	09-Dec-03	0.65J	9.7	9.0	41.9
	09-Dec-03	0.68J	9.8	9.2	42.6
	10-Mar-04	<1.0	0.71J	3.4	12.3
	10-Jun-04	2.7	1.8	32.2	116
	15-Sep-04	10.1	47	303	1,150
	07-Dec-04	0.87J	0.66J	8.0	46.8
	10-Mar-05	<1.0	<1.0	1.0	6.3
	20-Jun-05	<1.0	<1.0	<1.0	1.3J
	22-Sep-05	4.2J	26.3	115	472
	17-Jan-06	7.84J	123	212	938
	18-Apr-06	<1.0	1.23	8.23	32.74
	25-Jul-06	<10	15.1	69.8	329
08-Jan-07	<32	57.1	379	1,572	
18-Jul-07	<8.0	<8.0	146	361	
23-Jan-08	4.65J	3.77J	117	351	
Bldg645_MW13	22-Nov-94	7.0	77.5	113	270
	29-Jul-98	1.0	<1.0	11	15
	27-Oct-98	<1.0	<1.0	<1.0	<2.0
	24-Nov-98	<1.0	<1.0	<1.0	<2.0
	17-Dec-98	<1.0	1.0	2.0	7.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW13—Cont.	10-Mar-99	<1.0	1.0	2.0	7.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	10-Dec-03	<1.0	0.94J	0.87J	1.4J
	11-Jun-04	<1.0	<1.0	<1.0	<3.0
	07-Dec-04	<1.0	<1.0	<1.0	<3.0
	20-Jun-05	<1.0	<1.0	<1.0	<3.0
	09-Jan-07	<1.0	1.88	0.396J	0.629J
	17-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW14	22-Nov-94	<0.5	<0.5	<0.5	<1.5
	29-Jul-98	<1.0	<1.0	<1.0	<2.0
	14-Jun-04	<1.0	<1.0	<1.0	<3.0
	23-Jun-05	<1.0	<1.0	<1.0	<3.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW15	15-Mar-96	23.4	5.9	<0.5	3.6
	24-Nov-98	80	5.0	<4.0	<8.0
	16-Dec-98	53	<5.0	<5.0	<10
	11-Mar-99	4.0	<1.0	<1.0	<2.0
	11-Jun-99	64	<10	<10	<20
	29-Sep-03	<1.0	<1.0	<1.0	<3.0
	08-Dec-03	<1.0	<1.0	<1.0	<3.0
	10-Mar-04	<1.0	1.1	0.61J	<3.0
	10-Jun-04	<1.0	<1.0	<1.0	<3.0
	14-Sep-04	2.3	0.92J	0.86J	2.5
	07-Dec-04	<1.0	<1.0	<1.0	<3.0
	10-Mar-05	<1.0	<1.0	<1.0	<3.0
	21-Jun-05	<1.0	<1.0	<1.0	<3.0
	22-Sep-05	<1.0	0.74J	<1.0	<3.0
	16-Jan-06	<1.0	<1.0	0.366J	<2.0
	18-Apr-06	<1.0	<1.0	<1.0	<2.0
	25-Jul-06	<1.0	0.809J	<1.0	0.966J
18-Jul-07	<1.0	<1.0	<1.0	<2.0	
23-Jan-08	<1.0	<1.0	<1.0	<2.0	
Bldg645_MW16	30-Jul-98	<1.0	<1.0	<1.0	<2.0
	28-Oct-98	<1.0	1.0	<1.0	<2.0
	23-Nov-98	<1.0	1.0	<1.0	<2.0
	16-Dec-98	<1.0	1.0	<1.0	<2.0
	10-Mar-99	<1.0	<1.0	<1.0	<2.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	10-Dec-03	<1.0	0.94J	0.87J	1.4J
	14-Jun-04	<1.0	<1.0	<1.0	<3.0
	08-Dec-04	0.54J	0.55J	<1.0	<3.0
	21-Jun-05	<1.0	<1.0	<1.0	<3.0

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW16—Cont.	11-Jan-07	<1.0	<1.0	<1.0	<2.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW17	15-Mar-96	0.6	<0.5	<0.5	<1.5
	30-Jul-98	<1.0	<1.0	<1.0	<2.0
	27-Oct-98	<1.0	1.0	<1.0	<2.0
	23-Nov-98	<1.0	1.0	<1.0	<2.0
	16-Dec-98	<1.0	1.0	<1.0	<2.0
	11-Mar-99	<1.0	<1.0	<1.0	<2.0
	11-Jun-99	<1.0	<1.0	<1.0	<2.0
	10-Dec-03	<1.0	<1.0	<1.0	<3.0
	14-Jun-04	<1.0	<1.0	<1.0	<3.0
	08-Dec-04	<1.0	1.4	0.64J	3.0
	23-Jun-05	<1.0	<1.0	<1.0	<3.0
	09-Jan-07	<1.0	<1.0	<1.0	<2.0
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW18	30-Jul-98	850	530	<50	<100
	27-Oct-98	1,200	1,300	<80	<160
	23-Nov-98	1,100	1,200	<80	<160
	16-Dec-98	1,300	1,400	<100	<200
	10-Mar-99	1,500	1,300	<125	<250
	10-Jun-99	2,100	2,000	150	340
	29-Sep-03	755	3,420	761	2,490
	10-Dec-03	788	3,570	838	2,260
	11-Mar-04	461	2,320	564	1,340
	14-Jun-04	5.6	32.4	8.5	20
	15-Sep-04	266	1,900	554	1,360
	08-Dec-04	146	949	355	846
	20-Jun-05	151	949	549	989
	27-Sep-05	49	259	273	281
	17-Jan-06	0.815	3.1	1.9	457
	19-Apr-06	23.5	10.4	112	32.6
	26-Jul-06	18.1	6.88	96.8	20.54
	10-Jan-07	14.8	3.94J	86.7	6.76J
	22-Mar-07	3.97	0.52J	16.8	<2.0
	19-Jul-07	7.2	<4.0	72.8	<8.0
18-Oct-07	6.94J	<8.0	55	<16	
23-Jan-08	4.44	<2.0	37.3	1.45J	
17-Apr-08	4.09	<2.0	45.9	<4.0	
Bldg645_MW19	30-Jul-98	<1.0	<1.0	<1.0	<2.0
	28-Oct-98	<1.0	4.0	<1.0	3.0
	23-Nov-98	<1.0	1.0	<1.0	<2.0
	16-Dec-98	<1.0	1.0	<1.0	<2.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW19—Cont.	10-Mar-99	1.0	<1.0	<1.0	<2.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	14-Jun-04	<1.0	<1.0	<1.0	<3.0
	21-Jun-05	<1.0	<1.0	<1.0	<3.0
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW20	30-Jul-98	<1.0	<1.0	<1.0	<2.0
	28-Oct-98	<1.0	2.0	<1.0	<2.0
	23-Nov-98	<1.0	1.0	<1.0	<2.0
	16-Dec-98	<1.0	<1.0	<1.0	<2.0
	10-Mar-99	<1.0	<1.0	<1.0	<2.0
	10-Jun-99	<1.0	<1.0	<1.0	<2.0
	14-Jun-04	<1.0	<1.0	<1.0	<3.0
	21-Jun-05	<1.0	<1.0	<1.0	<3.0
18-Jul-07	<1.0	<1.0	<1.0	<2.0	
Bldg645_MW21	29-Sep-03	<1.0	<1.0	<1.0	<3.0
	12-Dec-03	<1.0	<1.0	<1.0	<3.0
	10-Mar-04	<1.0	<1.0	<1.0	<3.0
	09-Jun-04	<1.0	<1.0	<1.0	<3.0
	14-Sep-04	<1.0	0.96J	<1.0	1.5
	07-Dec-04	<1.0	<1.0	<1.0	<3.0
	09-Mar-05	<1.0	<1.0	<1.0	<3.0
	21-Jun-05	<1.0	<1.0	<1.0	<3.0
	22-Sep-05	<1.0	1.4	0.54J	3.1
	16-Jan-06	<1.0	<1.0	<1.0	<2.0
	24-Jul-06	<1.0	0.93J	<1.0	1.11J
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
	23-Jan-08	<1.0	<1.0	<1.0	<2.0
Bldg645_MW22	29-Sep-03	5.7	<1.0	<1.0	<3.0
	09-Dec-03	6.9	1.4	0.72J	<3.0
	11-Mar-04	<1.0	<1.0	<1.0	<3.0
	11-Jun-04	0.82J	<1.0	0.69J	<3.0
	15-Sep-04	<1.0	1.4	1.1	2.7J
	08-Dec-04	69.4	74.2	<1.0	1.8J
	09-Mar-05	<1.0	<1.0	<1.0	<3.0
	23-Jun-05	<1.0	0.65J	<1.0	<3.0
	27-Sep-05	<1.0	0.82J	<1.0	<3.0
	16-Jan-06	<1.0	<1.0	<1.0	<2.0
	18-Apr-06	<1.0	<1.0	<1.0	<2.0
	26-Jul-06	<1.0	1.43	4.3	1.32J
	08-Jan-07	<1.0	0.187J	<1.0	<2.0
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
23-Jan-08	<1.0	<1.0	<1.0	<2.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW23	26-Sep-03	<1.0	<1.0	<1.0	<3.0
	09-Dec-03	<1.0	0.94J	0.87J	1.4J
	11-Mar-04	<1.0	<1.0	<1.0	<3.0
	11-Jun-04	<1.0	<1.0	<1.0	<3.0
	15-Sep-04	<1.0	<1.0	<1.0	<3.0
	08-Dec-04	<1.0	0.59J	<1.0	<3.0
	09-Mar-05	<1.0	<1.0	<1.0	<3.0
	21-Jun-05	<1.0	<1.0	<1.0	<3.0
	27-Sep-05	<1.0	<1.0	<1.0	<3.0
	16-Jan-06	<1.0	<1.0	<1.0	<2.0
	19-Apr-06	<1.0	<1.0	<1.0	<2.0
	25-Jul-06	<1.0	0.851J	<1.0	0.687J
	09-Jan-07	<1.0	1.08	0.241J	<2.0
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
	23-Jan-08	<1.0	<1.0	<1.0	<2.0
Bldg645_MW24	09-Jan-07	<1.0	<1.0	<1.0	<2.0
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW25	10-Jan-07	<1.0	<1.0	<1.0	<2.0
	18-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW26	11-Jan-07	3,260	7,160	330	515
	22-Mar-07	2,060	13,900	325J	436J
	19-Jul-07	1,180	3,900	50.8J	<400
	18-Oct-07	1,700	3,410	287	896
	17-Apr-08	1,780	4,500	318	1,011
Bldg645_MW27	11-Jan-07	12.9	2.99	0.435J	0.56J
	22-Mar-07	<1.0	<1.0	<1.0	<2.0
	19-Jul-07	25.3	<2.0	<2.0	<4.0
	18-Oct-07	101	4.28J	64	<20
	17-Apr-08	96.9	4.64J	<8.0	<16
Bldg645_MW28	09-Jan-07	2.92	<1.0	<1.0	1.32J
	17-Jul-07	4.33	<1.0	<1.0	<2.0
Bldg645_MW29	11-Jan-07	21.3	3.8	0.873J	1.15J
	22-Mar-07	36.6	0.6J	<1.0	<2.0
	19-Jul-07	22.4	<1.0	<1.0	<2.0
	18-Oct-07	42.6	0.406J	<1.0	<2.0
	17-Apr-08	32.1	<1.0	<1.0	<2.0
Bldg645_MW30	10-Jan-07	<1.0	<1.0	<1.0	<2.0
	22-Mar-07	<1.0	<1.0	<1.0	<2.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
	18-Oct-07	<1.0	<1.0J	<1.0	<2.0
	17-Apr-08	<1.0	<1.0	<1.0	<2.0

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg645_MW31	10-Jan-07	<1.0	<1.0	<1.0	<2.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
Bldg645_MW32	11-Jan-07	<1.0	<1.0	<1.0	<2.0
	22-Mar-07	<1.0	0.634J	<1.0	<2.0
	19-Jul-07	<1.0	<1.0	<1.0	<2.0
	18-Oct-07	<1.0	<1.0J	<1.0	<2.0
	18-Apr-08	<1.0	1.14	<1.0	<2.0
Bldg645_MW33	19-Oct-07	2.07	0.265J	<1.0	<2.0
Bldg645_MW34	19-Oct-07	7.76	0.341J	<1.0	<2.0
Bldg645_MW35	07-Mar-08	<1.0	0.22J	<1.0	<2.0
Bldg645_MW36	07-Mar-08	<1.0	<1.0	<1.0	<2.0
Bldg645_MW37	07-Mar-08	0.754J	0.249J	<1.0	<2.0
Bldg728_HP09	26-Nov-91	11	4.2	<1.0	910
	26-Nov-91	35	44	2.1	840
Bldg728_MW01D	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW01S	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW02D	26-Nov-91	1.2	5.0	1.2	11
Bldg728_MW02S	26-Nov-91	42	270	47	650
Bldg728_MW03D	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW04D	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW04S	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW05D	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW05S	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW06D	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg728_MW06S	26-Nov-91	1.2	0.71J	<1.0	4.2
Bldg728_MW07D	26-Nov-91	<1.0	<1.0	<1.0	<1.0
	26-Nov-91	1.5	<1.0	<1.0	2.3
Bldg728_MW07S	26-Nov-91	<1.0	<1.0	<1.0	<1.0
Bldg820_HP01	02-Dec-92	<0.5	0.6	<0.5	<1.0
Bldg820_HP02	02-Dec-92	<0.5	0.5	<0.5	<1.0
Bldg820_HP03	02-Dec-92	<0.5	<0.5	<0.5	<1.0
Bldg820_HP04	02-Dec-92	<0.5	0.5	<0.5	<1.0
Bldg820_HP05	02-Dec-92	6,400	240	700	890
Bldg820_HP06	07-Dec-92	390	81	13	190
Bldg820_HP07	07-Dec-92	7,200	430	430	360
Bldg820_HP08	07-Dec-92	<0.5	0.7	<0.5	<1.0
Bldg820_HP09	08-Dec-92	36,000	28,000	3,100	17,000
Bldg820_HP10	08-Dec-92	22	8.7	2.2	16
Bldg820_HP16	16-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP17	11-Mar-94	<0.5	1.0	<0.5	<0.5

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_HP18	09-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP19	10-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP20	09-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP21	09-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP22	09-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP23	08-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP24	08-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP25	08-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP26	15-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP27	14-Mar-94	<0.5	2.8	<0.5	<0.5
Bldg820_HP28	17-Mar-94	142	1.4	0.5	4.4
Bldg820_HP29	09-Mar-94	<0.5	1.0	<0.5	<0.5
Bldg820_HP30	09-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP31	10-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP32	10-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP33	15-Mar-94	30.3	1.3	<0.5	0.5
Bldg820_HP34	11-Mar-94	3.8	<0.5	<0.5	<0.5
Bldg820_HP35	10-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP36	10-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_HP37	22-Mar-94	<0.5	<0.5	<0.5	<0.5
Bldg820_MW02	21-Aug-91	31,000	42,000	2,900	15,000
	26-Apr-02	19.4	402	34.9	285
	30-Oct-02	95.2	966	212	778
	14-Apr-04	<1.0	1.2	0.83J	9.1
	03-Nov-04	0.7J	66.9	14.8	116
	06-Aug-05	<1.0	52.3	7.0	97.8
	01-Feb-06	<10	<10	<10	<30
	13-Oct-06	<1.0	<1.0	<1.0	18.8
	21-Oct-07	6.8	5.5	2.7	172
	22-Mar-09	<2.0	211B	29	155
Bldg820_MW03	21-Aug-91	16,000	31,000	1,900	9,600
	03-Nov-04	42.4	19.4	7.4	52.5
	08-Aug-05	1.9	60.7	71	407E
	02-Feb-06	<1.0	10	0.79J	86.9
	13-Oct-06	<1.0	<1.0	<1.0	2.0
	17-Oct-07	1.1	26.1	9.0	163B
	20-Mar-09	2.9	5.0	58.3	112
Bldg820_MW04	21-Aug-91	6,800	11,000	1,100	5,100
	19-Aug-97	2.6	2.1	0.68J	1.55J
	11-Feb-98	0.5	0.88JB	0.27J	1.34JB
	12-May-98	<0.5	0.85J	0.12J	0.32J
	15-Aug-98	1.1	1.8J	0.17J	1.21JB

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW04—Cont.	17-Nov-98	1.8	0.69J	0.22J	2.96J
	26-Feb-99	<1.0	<1.0	<1.0	<3.0
	18-May-99	<10	<10	<10	<30
	10-Sep-99	<1.0	<1.0	7.1	<3.0
	17-Nov-99	161	75.4	17.6	87
	18-May-00	<1.0	<1.0	<1.0	<3.0
	29-Aug-00	<1.0	<2.0	<2.0	<6.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0
	19-Mar-01	13	10	3.7J	9.6
	21-Jun-01	<6.0	1.7JB	<6.0	<6.0
	26-Apr-02	<1.0	<1.0	<1.0	5.4
	28-Oct-02	5.2	5.4	3.1	9.3
	15-Apr-04	<1.0	<1.0	<1.0	<3.0
	06-Nov-04	1.6	0.74J	0.63J	1.3J
	10-Aug-05	<1.0	<1.0	<1.0	<3.0
	05-Feb-06	2.1	<1.0	<1.0	<3.0
	05-Feb-06	1.9	<1.0	<1.0	<3.0
	12-Oct-06	<1.0	<1.0	<1.0	<3.0
	18-Oct-07	<1.0	<1.0	<1.0	<3.0
22-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW05	22-Dec-92	<0.5	<0.5	<0.5	<1.0
	20-Aug-97	<0.5	0.054J	0.068J	0.064J
	11-Feb-98	2.0	8.1JB	1.8J	8.7JB
	12-May-98	2.2	0.29JB	<1.5	0.64J
	15-Aug-98	1.9	0.21J	0.14J	0.82J
	17-Nov-98	<1.0	0.3J	<1.0	<3.0
	26-Feb-99	<1.0	<1.0	<1.0	<3.0
	18-May-99	<1.0	<1.0	<1.0	<3.0
	10-Sep-99	<1.0	<1.0	<1.0	<3.0
	17-Nov-99	47.2	270	41.1	269
	18-May-00	6.1	36.2	4.9	23.9
	29-Aug-00	216	46.4	11.1	6.8
	13-Dec-00	30	19	5.6	14
	19-Mar-01	18	11	2.8	4.0
	26-Jun-01	3.4	7.7	1.3	7.5
	13-Apr-04	<1.0	1.5	0.62J	3.4
	22-Nov-04	<1.0	<1.0	<1.0	<3.0
	06-Aug-05	<1.0	<1.0	<1.0	<3.0
	05-Feb-06	<1.0	<1.0	<1.0	<3.0
12-Oct-06	<1.0	<1.0	<1.0	<3.0	
18-Oct-07	<1.0	<1.0	<1.0	<3.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW06	22-Dec-92	9,100	27,000	4,000	11,000
	17-Nov-99	1,250	2,120	1,130	4,010
	06-Nov-04	212	217	1,400	906
	08-Aug-05	150	411	1,980	1,480
	02-Feb-06	92	164	1,130B	1,070
	14-Oct-06	103	670	1,280	2,030
	21-Oct-07	65.4	797	1,880	1,890
	20-Mar-09	18.6	123	1,960	270
	20-Mar-09	18.3	115	2,000	267
Bldg820_MW07	22-Dec-92	375	6.2	<0.5	33
	19-Aug-97	<0.5	<2.0	<0.8	<3.0
	11-Feb-98	0.1J	1.2JB	0.15JB	0.95JB
	12-May-98	<0.5	0.79JB	<0.8	0.26J
	15-Aug-98	0.11J	<2.0	<0.8	<3.0
	17-Nov-98	<1.0	0.26J	<1.0	<3.0
	26-Feb-99	7.5	24.9	3.3	7.4
	18-May-99	36.6	59.8	12.6	51.3
	10-Sep-99	41.9	39.5	11.3	43.5
	17-Nov-99	7.1	42.8	12.8	77.4
	17-Nov-99	12.7	58.5	15.7	86.4
	18-May-00	4.7	<1.0	<1.0	<3.0
	29-Aug-00	46	25.8	7.8	14.7
	13-Dec-00	21	15	4.9	13
	19-Mar-01	18	14	3.8	9.6
	26-Jun-01	<1.0	0.35J	<1.0	<1.0
	27-Sep-01	<2.0	<2.0	<2.0	<4.0
	26-Apr-02	<1.0	1.8	<1.0	1.8J
	30-Oct-02	<1.0	<1.0	<1.0	<3.0
	20-Apr-04	<1.0	<1.0	<1.0	<3.0
	20-Nov-04	0.56J	<1.0	<1.0	<3.0
	31-May-05	<1.0	<1.0	<1.0	<3.0
	31-May-05	<1.0	<1.0	<1.0	<3.0
09-Aug-05	<1.0	<1.0	<1.0	<3.0	
03-Feb-06	<1.0	<1.0	<1.0	<3.0	
16-Oct-06	<1.0	<1.0	<1.0	<3.0	
24-Oct-07	<1.0	<1.0	<1.0	<3.0	
22-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW08	22-Dec-92	0.6	<0.5	<0.5	<1.0
	17-Nov-99	57.2	188	45.7	272
	26-Jun-01	3.2J	1.6J	<5.0	<5.0
	27-Sep-01	5.4	<5.0	<5.0	<10
	26-Apr-02	<1.0	1.3	<1.0	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW08—Cont.	30-Oct-02	<1.0	<1.0	<1.0	<3.0
	20-Apr-04	1.4	<1.0	<1.0	<3.0
	20-Nov-04	1.3	<1.0	<1.0	<3.0
	31-May-05	<1.0	<1.0	<1.0	<3.0
	09-Aug-05	<1.0	<1.0	<1.0	<3.0
	03-Feb-06	0.58	<1.0	<1.0	<3.0
	03-Feb-06	0.55J	<1.0	<1.0	<3.0
	16-Oct-06	0.67	<1.0	<1.0	<3.0
	24-Oct-07	<1.0	<1.0	<1.0	<3.0
	22-Mar-09	<1.0	<1.0	<1.0	<3.0
Bldg820_MW09	22-Dec-92	2,000	190	12	820
	19-Aug-97	8,500	32,000	2,800	13,300
	11-Feb-98	0.45J	0.82JB	0.19J	1.21JB
	12-May-98	4,400	4,700B	740	2,010B
	15-Aug-98	3,300	2,500B	600J	1,780J
	17-Nov-98	5,000	1,200	480	1,120J
	26-Feb-99	4,140	959	368	785
	18-May-99	5,620	1,340	411	917
	10-Sep-99	6,170	1,760	1,030	2,760
	17-Nov-99	1,190	5,480	736	5,990
	18-May-00	2,580	747	217	507
	29-Aug-00	3,390	1,060	291	735
	13-Dec-00	2,900	990	280	740
	19-Mar-01	2,000	710	180	490
	21-Jun-01	2,700	1,200B	300	820
	01-Oct-01	2,600	1,100	250	690
	24-Apr-02	1,770	645	159	447
	28-Oct-02	1,450	488	125	348
	14-Apr-04	1,170B	375	225	532
	03-Nov-04	2,360B	428	222	495
	06-Aug-05	1,820B	224B	168B	297
	01-Feb-06	<1.0	<1.0	<1.0	<3.0
	01-Feb-06	1,710	75.6	119	242
14-Oct-06	<1.0	<1.0	<1.0	<3.0	
03-Jan-07	723	19.6	24.7	49.2	
21-Oct-07	1.2	14.8	55.2	79.3	
21-Oct-07	92.6	11.2	6.8	<30	
20-Mar-09	22	<1.0	4.6	10.1	
Bldg820_MW09D	03-Oct-01	<1.0	<1.0	<1.0	<2.0
Bldg820_MW10	22-Dec-92	1.3	1.7	<0.5	1.4
	19-Aug-97	0.067J	0.11J	0.093J	0.333J
	11-Feb-98	6.2	1.1JB	0.26JB	1.24JB

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW10—Cont.	12-May-98	<0.5	1.1JB	0.15J	0.53J
	15-Aug-98	0.99	0.25JB	0.18J	0.44J
	17-Nov-98	<1.0	0.29J	<1.0	<3.0
	27-Feb-99	8.3	4.7	2.3	3.2
	18-May-99	60.4	30.7	11.5	24.7
	10-Sep-99	7.7	100	10.9	110
	17-Nov-99	2.6	14.2	7.1	32.2
	18-May-00	<1.0	<1.0	<1.0	<3.0
	29-Aug-00	<1.0	<2.0	<2.0	<6.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0
	19-Mar-01	0.21J	0.23J	<1.0	<1.0
	22-Jun-01	<1.0	0.41JB	<1.0	<1.0
	26-Sep-01	<1.0	<1.0	<1.0	<2.0
	24-Apr-02	<1.0	<1.0	<1.0	<3.0
	30-Oct-02	<1.0	<1.0	<1.0	<3.0
	02-Feb-06	<1.0	<1.0	<1.0	<3.0
	17-Oct-06	<1.0	<1.0	<1.0	<3.0
23-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW11	22-Dec-92	2,800	21,000	2,200	12,000
	19-Aug-97	900	29,000	3,300	18,600
	11-Feb-98	340	420B	100	850B
	12-May-98	590	4,400B	630B	4,400B
	15-Aug-98	760	3,700B	550J	3,700J
	17-Nov-98	850	2,800	640	3,900
	27-Feb-99	<1.0	1,770	173	1,250
	18-May-99	1,040	5,330	578	3,700
	10-Sep-99	NA	3,650	382	3,720
	17-Nov-99	3,630	1,040	613	1,510
	18-May-00	1,360	8,220	1,110	7,760
	29-Aug-00	647	6,690	881	6,140
	13-Dec-00	1,000	9,100	1,000	7,800
	19-Mar-01	700	8,200	1,000	7,000
	26-Jun-01	410	11,000	1,400	9,000
	02-Oct-01	130	2,800	340	2,600
	26-Apr-02	45.3	2,980	487	3,420
	26-Apr-02	45.1	2,900	481	3,270
	30-Oct-02	49.3	594	91.5	1,580
	16-Apr-04	<20	264	31.6	2,180
16-Apr-04	<10	299	35.5	2,160B	
22-Nov-04	7.4	722B	111B	2,450B	
10-Aug-05	<20	148	78.1	3,990	
05-Feb-06	1.3	249	55.2	1,390	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW11—Cont.	17-Oct-06	1.1	177	57.2	1,860
	18-Oct-07	0.85J	6.4	46.2	1,400B
	18-Oct-07	5.1J	13.5	44.4	1,310
	22-Mar-09	<10	8.5J	118	4,390
Bldg820_MW12	13-Apr-94	58.8	80.1	9.6	97.2
	19-Aug-97	0.13J	0.2J	0.075J	0.216J
	11-Feb-98	<0.5	0.34JB	0.17JB	0.74JB
	12-May-98	0.17J	0.91JB	<0.8	0.43J
	15-Aug-98	1.2	2.9B	0.49J	2.08J
	17-Nov-98	0.21J	0.65J	0.29J	<3.0
	26-Feb-99	35.4	16.3	7.5	12.6
	18-May-99	12.6	8.4	4.4	9.6
	10-Sep-99	9.2	114	10.3	102
	17-Nov-99	14.7	57.6	28	106
	18-May-00	<1.0	<1.0	<1.0	<3.0
	29-Aug-00	<1.0	<2.0	<2.0	<6.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0
	19-Mar-01	0.15J	<1.0	<1.0	<1.0
	21-Jun-01	<1.0	0.38JB	<1.0	<1.0
	26-Sep-01	<1.0	<1.0	<1.0	<2.0
	25-Apr-02	<1.0	<1.0	<1.0	<3.0
	28-Oct-02	<1.0	<1.0	1.7	47.8
	14-Apr-04	<1.0	<1.0	<1.0	<3.0
	06-Nov-04	1.9	1.8	17	9.5
08-Aug-05	<1.0	<1.0	<1.0	<3.0	
02-Feb-06	<1.0	<1.0	<1.0	<3.0	
13-Oct-06	<2.0	<2.0	<2.0	<6.0	
18-Oct-07	<1.0	<1.0	<1.0	<3.0	
20-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW13	14-Apr-94	9,000	28,100	3,000	14,900
	17-Nov-99	138	ND	110	1,640
	21-Jun-01	40	920B	52	550
	02-Oct-01	24	68	110	590
	26-Apr-02	0.63J	17.5	5.0	24.8
	29-Oct-02	<1.0	2.1	0.73J	7.2
	14-Apr-04	12.5	474	145	1,290
	06-Nov-04	2.8	19.1	19.5	63.6
	06-Aug-05	1.8	41.6	21.7	148B
	02-Feb-06	8.8	304	60.8	903
	13-Oct-06	<1.0	10.8	6.7	41.2
	18-Oct-07	<1.0	27.4	13.5	86
	20-Mar-09	<1.0	5.0	7.5	125
22-Mar-09	<5.0	45	42.5	836	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW14	14-Apr-94	<0.5	<0.5	<0.5	<0.5
	17-Nov-99	14.3	84.2	18	121
	22-Jun-01	<1.0	0.36JB	<1.0	<1.0
	27-Sep-01	<1.0	<1.0	<1.0	<2.0
	26-Apr-02	1.2	89.3	7.3	37.2
	30-Oct-02	<1.0	<1.0	<1.0	<3.0
	15-Apr-04	<1.0	<1.0	<1.0	<3.0
	20-Nov-04	0.93J	<1.0	<1.0	<3.0
	31-May-05	<1.0	<1.0	<1.0	<3.0
	09-Aug-05	<1.0	<1.0	<1.0	<3.0
	03-Feb-06	<1.0	<1.0	<1.0	<3.0
	16-Oct-06	<1.0	<1.0	<1.0	<3.0
	19-Oct-07	<1.0	<1.0	<1.0	<3.0
	19-Oct-07	<1.0	<1.0	<1.0	<3.0
Bldg820_MW15	13-Apr-94	<0.5	<0.5	<0.5	<1.0
	26-Jun-01	1.9	0.67J	3.3	3.1
	01-Oct-01	<1.0	<1.0	<1.0	<2.0
	26-Apr-02	<1.0	<1.0	<1.0	<3.0
	28-Oct-02	<1.0	<1.0	<1.0	<3.0
	13-Apr-04	<1.0	<1.0	<1.0	<3.0
	06-Nov-04	2.1	0.89J	0.65J	1.4J
	06-Aug-05	<1.0	<1.0	<1.0	<3.0
	02-Feb-06	<1.0	<1.0	<1.0	<3.0
	12-Oct-06	<1.0	<1.0	<1.0	<3.0
	15-Oct-07	<1.0	<1.0	<1.0	<3.0
22-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW16	13-Apr-94	<0.5	<0.5	<0.5	<1.0
	17-Nov-99	6.8	31.4	11.8	53.3
	19-Mar-01	<1.0	0.24J	<1.0	<1.0
	22-Jun-01	8.2	12B	2.3	9.6
	27-Sep-01	<1.0	<1.0	<1.0	<2.0
	25-Apr-02	<1.0	<1.0	<1.0	<3.0
	29-Oct-02	<1.0	<1.0	<1.0	<3.0
	15-Apr-04	2.4	<1.0	<1.0	<3.0
	20-Nov-04	2.6	<1.0	<1.0	<3.0
	08-Aug-05	8.7	<1.0	<1.0	<3.0
	08-Aug-05	8.6	<1.0	<1.0	<3.0
	02-Feb-06	<1.0	<1.0	<1.0	<3.0
	16-Oct-06	<1.0	<1.0	<1.0	<3.0
21-Oct-07	0.5J	<1.0	<1.0	1.1	
22-Mar-09	<1.0	<1.0	<1.0	<3.0	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW17	13-Apr-94	0.7	<0.5	<0.5	<1.0
	17-Nov-99	11.9	36.6	13.4	61
	22-Jun-01	19	12B	2.2	10
	22-Jun-01	19	12B	2.3	10
	27-Sep-01	18	<2.0	<2.0	<4.0
	25-Apr-02	17.4	<1.0	<1.0	<3.0
	29-Oct-02	<1.0	<1.0	<1.0	<3.0
	15-Apr-04	181	<10	<10	<30
	20-Nov-04	242B	<1.0	<1.0	2.3J
	08-Aug-05	552B	<1.0	1.2	5.1
	02-Feb-06	675	<20	<20	<60
	16-Oct-06	695	<50	<50	150
	21-Oct-07	53.4	<50	<50	<150
23-Mar-09	148	<10	<10	<30	
Bldg820_MW18	13-Apr-94	<0.5	<0.5	<0.5	<1.0
	17-Nov-99	2.5	14.9	7.4	30.8
	20-Nov-04	<1.0	<1.0	<1.0	<3.0
	26-Feb-05	1.2	10.5	5.0	13.2
	31-May-05	<1.0	<1.0	<1.0	<3.0
	10-Aug-05	<1.0	<1.0	<1.0	<3.0
	02-Feb-06	<1.0	<1.0	<1.0	<3.0
	17-Oct-06	<1.0	<1.0	<1.0	<3.0
	21-Oct-07	<1.0	<1.0	<1.0	1.8J
22-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW19	13-Apr-94	<0.5	<0.5	<0.5	<1.0
	17-Nov-99	9.1	34.6	12.3	56.2
	22-Jun-01	1.5	0.66JB	<1.0	0.56J
	26-Sep-01	<1.0	<1.0	<1.0	<2.0
	24-Apr-02	1.4	0.75J	<1.0	<3.0
	30-Oct-02	<1.0	<1.0	<1.0	<3.0
	16-Apr-04	0.79J	1.3	<1.0	1.8J
	20-Nov-04	0.57J	<1.0	<1.0	<3.0
	26-Feb-05	4.1	23.1	8.3	8.3
	31-May-05	0.75J	1.0	0.6J	<3.0
	08-Aug-05	<1.0	<1.0	<1.0	<3.0
17-Oct-06	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW20	13-Apr-94	<0.5	<0.5	<0.5	<1.0
	17-Nov-99	2.5	13.9	6.7	29.5
	20-Apr-04	<1.0	<1.0	<1.0	<3.0
	20-Nov-04	<1.0	<1.0	<1.0	<3.0
	31-May-05	<1.0	<1.0	<1.0	<3.0
	09-Aug-05	<1.0	<1.0	<1.0	<3.0

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW20—Cont.	02-Feb-06	0.69J	1.1	8.0	7.8
	17-Oct-06	<1.0	<1.0	<1.0	<3.0
	21-Oct-07	<1.0	<1.0	<1.0	<3.0
	22-Mar-09	<1.0	<1.0	<1.0	<3.0
Bldg820_MW21	13-Apr-94	0.5	<0.5	<0.5	<1.0
	19-Aug-97	<0.5	<2.0	<0.8	<3.0
	11-Feb-98	<0.5	0.23JB	<0.8	0.51JB
	12-May-98	<0.5	1.9J	0.42J	1.48J
	15-Aug-98	0.49J	<2.0	0.29J	0.95J
	17-Nov-98	<1.0	<1.0	<1.0	<3.0
	27-Feb-99	3.8	1.4	<1.0	<3.0
	18-May-99	50.4	26	8.8	20
	10-Sep-99	22	36.7	4.5	44
	17-Nov-99	1.9	10.8	5.5	24.9
	18-May-00	<1.0	<1.0	<1.0	<3.0
	18-May-00	<1.0	<1.0	<1.0	<3.0
	29-Aug-00	<1.0	<2.0	<2.0	<6.0
	29-Aug-00	<1.0	<2.0	<2.0	<6.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0
	19-Mar-01	0.35J	0.54J	<1.0	<1.0
	19-Mar-01	0.17J	0.24J	<1.0	<1.0
	22-Jun-01	0.19J	0.56JB	<1.0	0.55J
	24-Apr-02	<1.0	<1.0	<1.0	<3.0
	30-Oct-02	<1.0	<1.0	<1.0	<3.0
	16-Apr-04	<1.0	<1.0	<1.0	<3.0
	20-Nov-04	<1.0	<1.0	<1.0	<3.0
31-May-05	<1.0	<1.0	<1.0	<3.0	
09-Aug-05	<1.0	<1.0	<1.0	<3.0	
02-Feb-06	<1.0	<1.0	<1.0	<3.0	
17-Oct-06	<1.0	<1.0	<1.0	<3.0	
21-Oct-07	<1.0	<1.0	<1.0	<3.0	
22-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW22	21-Apr-94	<0.5	<0.5	<0.5	<1.0
	30-Nov-04	<1.0	<1.0	<1.0	<3.0
	31-May-05	<1.0	<1.0	<1.0	<3.0
	10-Aug-05	<1.0	<1.0	<1.0	<3.0
	03-Feb-06	<1.0	<1.0	<1.0	<3.0
	18-Oct-06	<1.0	<1.0	<1.0	<3.0
	24-Oct-07	<1.0	<1.0	<1.0	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW23	13-Apr-94	<0.5	<0.5	<0.5	<1.0
	30-Nov-04	<1.0	<1.0	<1.0	<3.0
	31-May-05	<1.0	<1.0	<1.0	<3.0
	10-Aug-05	<1.0	<1.0	<1.0	<3.0
	03-Feb-06	<1.0	<1.0	<1.0	<3.0
	18-Oct-06	<1.0	<1.0	<1.0	<3.0
	24-Oct-07	<1.0	<1.0	<1.0	<3.0
	23-Mar-09	<1.0	<1.0	<1.0	<3.0
Bldg820_MW24	13-Apr-94	<0.5	<0.5	<0.5	<1.0
	30-Nov-04	<1.0	<1.0	<1.0	<3.0
	26-Feb-05	1.9	15	6.2	16.1
	27-May-05	<1.0	<1.0	<1.0	<3.0
	09-Aug-05	<1.0	<1.0	<1.0	<3.0
	02-Feb-06	2.6	<1.0	<1.0	<3.0
	02-Feb-06	2.9	<1.0	<1.0	<3.0
	16-Oct-06	<1.0	<1.0	<1.0	<3.0
	16-Oct-06	<1.0	<1.0	<1.0	<3.0
	19-Oct-07	<1.0	<1.0	<1.0	<3.0
	22-Mar-09	<1.0	<1.0	<1.0	<3.0
	Bldg820_MW25	13-Apr-94	<0.5	<0.5	<0.5
17-Nov-99		15.4	83.2	19.5	127
30-Nov-04		<1.0	<1.0	<1.0	<3.0
26-Feb-05		4.2	26.2	9.2	23.8
27-May-05		<1.0	<1.0	<1.0	<3.0
08-Aug-05		<1.0	<1.0	<1.0	<3.0
02-Feb-06		4.5	<1.0	<1.0	<3.0
16-Oct-06		<1.0	<1.0	<1.0	<3.0
19-Oct-07		<1.0	<1.0	<1.0	<3.0
22-Mar-09		<1.0	<1.0	<1.0	<3.0
Bldg820_MW26	14-Apr-94	<0.5	<0.5	<0.5	<0.5
	19-Aug-97	<0.5	1.2J	0.32J	1.62J
	11-Feb-98	0.092J	0.22JB	0.08J	0.6J
	12-May-98	<0.5	0.3JB	<0.8	0.196J
	15-Aug-98	0.1J	<2.0	<0.8	<3.0
	17-Nov-98	<1.0	<1.0	<1.0	<3.0
	27-Feb-99	14.7	66.4	7.8	39
	18-May-99	21	159	16.9	91
	10-Sep-99	166	91.7	23	80.7
	17-Nov-99	15.4	83.2	19.5	127
	17-Nov-99	15.7	83.8	19.8	127
	18-May-00	<1.0	<1.0	<1.0	<3.0
	29-Aug-00	49.6	27.7	8.5	18
	13-Dec-00	30	17	5.0	11

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW26—Cont.	19-Mar-01	42	28	7.4	19
	22-Jun-01	<1.0	0.3JB	<1.0	<1.0
	02-Oct-01	2.6	14	3.2	18
	26-Apr-02	<1.0	31.2	3.2	17.1
	26-Apr-02	<1.0	30.2	3.1	16.7
	29-Oct-02	<1.0	<1.0	<1.0	<3.0
	20-Apr-04	<1.0	<1.0	<1.0	<3.0
	20-Apr-04	<1.0	<1.0	<1.0	<3.0
	20-Nov-04	1.0	<1.0	<1.0	<3.0
	26-Feb-05	2.1	15.6	6.5	16.7
	27-May-05	<1.0	<1.0	<1.0	<3.0
	09-Aug-05	<1.0	<1.0	<1.0	<3.0
	05-Feb-06	5.1	<1.0	<1.0	<3.0
	13-Oct-06	<1.0	<1.0	<1.0	<3.0
	19-Oct-07	<1.0	<1.0	<1.0	<3.0
22-Mar-09	<1.0	<1.0	<1.0	<3.0	
Bldg820_MW27	03-Oct-01	<1.0	<1.0	<1.0	<2.0
	13-Apr-04	<1.0	0.65J	<1.0	3.3J
	22-Nov-04	<1.0	<1.0	<1.0	1.4J
	06-Aug-05	<1.0	<1.0	<1.0	<3.0
	05-Feb-06	<1.0	<1.0	<1.0	<3.0
	17-Oct-06	<1.0	5.7	2.6	70
	21-Oct-07	<1.0	<1.0	<1.0	<3.0
Bldg820_MW28	25-May-05	1,110	<50	<50	<150
	09-Aug-05	1,130B	<1.0	<1.0	<3.0
	05-Feb-06	258B	<1.0	<1.0	<3.0
	18-Oct-06	94.3	<1.0	<1.0	<3.0
	15-Oct-07	1.7	<1.0	<1.0	<3.0
	23-Mar-09	43.1	<1.0	<1.0	<3.0
Bldg820_MW29	25-May-05	29.6	<1.0	<1.0	<3.0
	09-Aug-05	10.7	<1.0	<1.0	<3.0
	03-Feb-06	10.8	<1.0	<1.0	<3.0
	18-Oct-06	9.4	<1.0	<1.0	<3.0
	18-Oct-07	<1.0	<1.0	<1.0	<3.0
	22-Mar-09	<1.0	<1.0	<1.0	1.3J
Bldg820_MW30	14-Oct-06	<1.0	<1.0	<1.0	<3.0
	18-Oct-07	<1.0	<1.0	<1.0	<3.0
Bldg820_MW31	14-Oct-06	<1.0	<1.0	<1.0	<3.0
	15-Oct-07	<1.0	<1.0	<1.0	<3.0
Bldg820_MW32	14-Oct-06	<1.0	<1.0	<1.0	<3.0
	15-Oct-07	<1.0	<1.0	<1.0	<3.0
Bldg820_MW33	18-Oct-06	0.83J	<1.0	<1.0	<3.0
	24-Oct-07	<1.0	<1.0	<1.0	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg820_MW34	18-Oct-06	<1.0	<1.0	<1.0	<3.0
	15-Oct-07	<1.0	<1.0	<1.0	<3.0
Bldg820_PW01	22-Dec-92	31,000	80,000	7,500	39,000
	22-Nov-04	109B	48.3	78.2	333B
	08-Aug-05	12.2	2.4	10.5	70.3
	01-Feb-06	36.9	24.1	7.1	106
	03-Jan-07	17.2	75.4	16.6	362B
	17-Oct-07	1.4	2.7	18.4	45.8
Bldg900_GP01	16-Jul-96	146	<10	32	<30
Bldg900_GP02	16-Jul-96	0.9	1.0	<0.5	<1.5
Bldg900_GP03	15-Jul-96	50.5	4.1	5.4	12.2
Bldg900_GP04	19-Jul-96	2.6	0.6	<0.5	<1.5
Bldg900_GP05	17-Jul-96	<0.5	<0.5	<0.5	<1.5
	17-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg900_GP06	15-Jul-96	5.6	0.8	3.9	9.3
Bldg900_GP07	16-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg900_GP08	15-Jul-96	1.2	<0.5	<0.5	<1.5
Bldg900_GP09	15-Jul-96	4.0	<0.5	1.2	4.8
Bldg900_GP10	15-Jul-96	618	6,525	2,100	9,350
Bldg900_GP11	15-Jul-96	186.5	186	241	645
Bldg900_GP12	16-Jul-96	1.9	<0.5	<0.5	<1.5
Bldg900_GP13	16-Jul-96	2,095	3,620	682	2,940
Bldg900_GP14	11-Jul-96	1.9	2.0	2.5	3.6
Bldg900_GP15	16-Jul-96	245.5	208.5	109.5	300.5
Bldg900_GP16	16-Jul-96	1.6	0.9	1.4	1.7
Bldg900_HP01	01-Aug-96	3.87	<2.5	3.3	11.4
Bldg900_HP02	01-Aug-96	35.9	2.75	16.7	49.1
Bldg900_HP03	01-Aug-96	500	92.3	200	520
Bldg900_HP04	29-Jul-96	274	218	254	1,048
Bldg900_HP05	01-Aug-96	41.7	2.85	0.905	0.703
Bldg900_MW01	09-Aug-96	<0.5	0.543	<0.5	<0.5
	23-Jul-02	0.3J	NA	NA	NA
	30-Oct-03	<1.0	<1.0	<1.0	<3.0
	12-Jan-04	<1.0	<1.0	<1.0	<3.0
	07-Apr-04	<1.0	<1.0	<1.0	<3.0
	08-Jul-04	0.52J	0.64J	<1.0	<3.0
	11-Oct-04	<1.0	0.67J	<1.0	<3.0
	11-Jan-05	<1.0	<1.0	<1.0	<3.0
	26-Apr-05	<1.0	<1.0	<1.0	<3.0
	26-Jul-05	<1.0	<1.0	<1.0	<3.0
	19-Oct-05	<1.0	<1.0	<1.0	<3.0
11-Jan-06	<1.0	<1.0	<1.0	<2.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg900_MW01—Cont.	17-Apr-06	<1.0	<1.0	<1.0	<2.0
	19-Jul-06	<1.0	1.4	<1.0	1.827
	16-Oct-06	<1.0	<1.0	<1.0	<2.0
	15-Jan-07	<1.0	1.26	0.2J	<2.0
	13-Mar-07	<1.0	<1.0	<1.0	<2.0
Bldg900_MW02	01-Aug-96	360	2,900	1,200	5,400
	01-Aug-96	235	2,240	846	4,240
	23-Jul-02	13	34	180	140
	30-Oct-03	28	36.6	161	99.1
	12-Jan-04	69.9	41	195	126
	07-Apr-04	24	33.2	88.1	67.3
	08-Jul-04	32	40	69	65.1
	11-Oct-04	9.2	18.3	36.2	31
	11-Jan-05	53.2	27	92.8	63
	26-Apr-05	31.9	12.5	34.6	29.2
	25-Jul-05	4.1	8.5	8.6	3.9
	19-Oct-05	129	27	59.2	53.1
	11-Jan-06	14	11.6	21.2	21.79
	17-Apr-06	26	18	16.6	32.9
	19-Jul-06	12.8	12.7	9.08	21.75
	16-Oct-06	1.93	8.04	11.5	15.58
	15-Jan-07	<1.0	5.02	2.57	11.07
13-Mar-07	3.22	2.62	0.808J	5.12	
Bldg900_MW03	09-Aug-96	0.627	0.5	<0.5	<0.5
	23-Jul-02	0.2J	NA	NA	NA
	30-Oct-03	<1.0	<1.0	<1.0	<3.0
	12-Jan-04	<1.0	<1.0	<1.0	<3.0
	07-Apr-04	<1.0	<1.0	<1.0	<3.0
	08-Jul-04	<1.0	0.51J	<1.0	<3.0
	11-Oct-04	<1.0	<1.0	<1.0	<3.0
	11-Jan-05	<1.0	<1.0	0.51J	<3.0
	26-Apr-05	<1.0	<1.0	<1.0	<3.0
	25-Jul-05	<1.0	<1.0	<1.0	<3.0
	19-Oct-05	<1.0	<1.0	<1.0	<3.0
	11-Jan-06	<1.0	<1.0	<1.0	<2.0
	17-Apr-06	<1.0	<1.0	<1.0	<2.0
	18-Jul-06	<1.0	1.33	0.337J	1.25
	16-Oct-06	<1.0	<1.0	<1.0	<2.0
	15-Jan-07	<1.0	1.45	0.288J	<2.0
13-Mar-07	<1.0	<1.0	<1.0	<2.0	
Bldg900_MW04	01-Aug-96	588	119	574	965
	23-Jul-02	270	100	540	990

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg900_MW04—Cont.	30-Oct-03	569	128	719	1,090
	12-Jan-04	554	262	638	1,290
	07-Apr-04	736	135	702	1,250
	08-Jul-04	541	59.4	546	691
	11-Oct-04	942	50.4	931	1,060
	11-Jan-05	772	<10	760	<10
	26-Apr-05	1,070	49	91	906
	25-Jul-05	1,120	55.2	831	853
	19-Oct-05	104	50	74	650
	11-Jan-06	717	29.3	609	329.6
	17-Apr-06	784	47.5	614	439.5
	18-Jul-06	628	37.8	499J	273.2
	16-Oct-06	631	<25	381	85.9
	15-Jan-07	288	<16	154	5.52J
	13-Mar-07	269	<16	133	<32
Bldg900_MW05	01-Aug-96	<0.5	<0.5	<0.5	<0.5
	23-Jul-02	1.0J	0.7J	NA	NA
	30-Oct-03	<1.0	<1.0	0.66J	1.1J
	12-Jan-04	<1.0	<1.0	<1.0	<3.0
	07-Apr-04	<1.0	<1.0	<1.0	<3.0
	08-Jul-04	0.78J	0.87J	1.0	1.7
	11-Oct-04	<1.0	<1.0	<1.0	<3.0
	11-Jan-05	<1.0	<1.0	<1.0	1.4J
	26-Apr-05	<1.0	<1.0	<1.0	<3.0
	25-Jul-05	<1.0	<1.0	<1.0	<3.0
	19-Oct-05	<1.0	<1.0	<1.0	<3.0
	10-Jan-06	<1.0	<1.0	<1.0	<2.0
	17-Apr-06	<1.0	<1.0	<1.0	<2.0
	19-Jul-06	<1.0	1.02	<1.0	<2.0
	16-Oct-06	<1.0	1.05	<1.0	<2.0
15-Jan-07	<1.0	0.591J	<1.0	<2.0	
13-Mar-07	<1.0	<1.0	<1.0	<2.0	
Bldg900_MW06	01-Aug-96	1.74	0.816	0.702	1.35
	30-Oct-03	<1.0	<1.0	<1.0	<3.0
	13-Jan-04	<1.0	<1.0	<1.0	<3.0
	08-Apr-04	<1.0	<1.0	<1.0	<3.0
	09-Jul-04	<1.0	0.8J	<1.0	<3.0
	11-Oct-04	<1.0	<1.0	<1.0	<3.0
	10-Jan-05	<1.0	<1.0	<1.0	<3.0
	25-Apr-05	<1.0	<1.0	<1.0	<3.0
	26-Jul-05	<1.0	<1.0	<1.0	<3.0
	20-Oct-05	<1.0	<1.0	<1.0	<3.0

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg900_MW06—Cont.	11-Jan-06	<1.0	<1.0	<1.0	<2.0
	17-Apr-06	<1.0	<1.0	<1.0	<2.0
	18-Jul-06	<1.0	1.06	<1.0	1.2J
	17-Oct-06	<1.0	<1.0	<1.0	<2.0
	15-Jan-07	<1.0	0.504J	0.203J	<2.0
	13-Mar-07	<1.0	<1.0	<1.0	<2.0
Bldg900_MW07	01-Aug-96	<0.5	0.872	<0.5	0.733
	30-Oct-03	<1.0	<1.0	<1.0	<3.0
	13-Mar-07	0.287J	<1.0	<1.0	<2.0
Bldg900_MW08	30-Oct-03	<1.0	<1.0	<1.0	<3.0
	13-Jan-04	<1.0	<1.0	<1.0	<3.0
	07-Apr-04	<1.0	<1.0	<1.0	<3.0
	08-Jul-04	<1.0	<1.0	0.5J	2.0J
	11-Oct-04	<1.0	0.64J	<1.0	1.8J
	10-Jan-05	<1.0	<1.0	<1.0	1.4J
	26-Apr-05	<1.0	<1.0	<1.0	1.1J
	25-Jul-05	<1.0	<1.0	<1.0	<3.0
	19-Oct-05	<1.0	<1.0	<1.0	<3.0
	10-Jan-06	<1.0	<1.0	<1.0	<2.0
	17-Apr-06	<1.0	<1.0	<1.0	<2.0
	19-Jul-06	<1.0	1.79	0.432J	3.35
	17-Oct-06	<1.0	<1.0	<1.0	<2.0
	15-Jan-07	<1.0	0.898J	0.317J	0.639J
	13-Mar-07	<1.0	<1.0	<1.0	<2.0
Bldg900_MW09	30-Oct-03	25.4	<1.0	11.6	8.4
	13-Jan-04	24.3	0.52J	4.8	9.0
	07-Apr-04	25.4	<1.0	4.6	7.2
	08-Jul-04	16.1	1.1	3.1	3.8
	11-Oct-04	84.5	1.5	12	9.7
	10-Jan-05	67.6	<1.0	10	3.6
	26-Apr-05	87	0.9J	1.0	5.4
	25-Jul-05	91.5	1.3	10.2	3.3
	19-Oct-05	98.5	1.4J	4.9	4.0J
	10-Jan-06	133	<8.0	11.7	<32
	17-Apr-06	110	<5.0	18.7	<10
	18-Jul-06	133	3.38J	44.4	<16
	17-Oct-06	83.4	<4.0	4.73	<8.0
	15-Jan-07	151	<8.0	25.9	<16
13-Mar-07	125	<8.0	17	<16	
Bldg900_MW10	30-Oct-03	3.6	<1.0	<1.0	<3.0
	30-Oct-03	3.9	<1.0	<1.0	<3.0
	12-Jan-04	2.6	<1.0	2.3	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg900_MW10—Cont.	07-Apr-04	3.3	<1.0	<1.0	<3.0
	08-Jul-04	3.2	0.63J	<1.0	<3.0
	11-Oct-04	3.3	0.73J	<1.0	<3.0
	10-Jan-05	3.3	<1.0	<1.0	<3.0
	26-Apr-05	2.0	<1.0	<1.0	1.1J
	25-Jul-05	2.6	<1.0	<1.0	<3.0
	19-Oct-05	2.6	0.5J	<1.0	<3.0
	10-Jan-06	2.33	<1.0	<1.0	<2.0
	17-Apr-06	2.47	<1.0	<1.0	<2.0
	19-Jul-06	2.47	1.19	<1.0	1.09J
	16-Oct-06	1.77	<1.0	<1.0	<2.0
	15-Jan-07	2.29	0.933J	0.451J	<2.0
	13-Mar-07	1.93	<1.0	<1.0	<2.0
Bldg900_P-1	02-Nov-95	2,100	1,000	480	1,284
Bldg900_P-2	02-Nov-95	120	350	100	502
Bldg900_P-3	02-Nov-95	5,100	21,000	1,900	8,800
Bldg900_P-4	02-Nov-95	170	160	350	1,380
Bldg903_MW01	09-Apr-93	<0.2	<0.5	<0.8	<1.7
Bldg903_MW02	09-Apr-93	<0.2	<0.5	<0.8	<1.7
Bldg903_MW03	09-Apr-93	<0.2	<0.5	<0.8	<1.7
Bldg903_MW04	16-Oct-97	<0.5	<0.5	<0.5	<0.5
Bldg1101_MW01	14-Nov-00	<1.0	<1.0	<1.0	<2.0
	17-Jul-02	<1.0	<1.0	<1.0	<2.0
	16-Aug-07	<1.0	<1.0	<1.0	<3.0
	27-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1101_MW02	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	27-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1101_MW03	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	18-Jul-02	<1.0	<1.0	<1.0	<2.0
	27-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1106_GP01	19-Sep-96	0.107	0.155	<0.06	<0.15
Bldg1106_GP02	19-Sep-96	0.109	0.171	0.078	0.285
Bldg1106_GP03	19-Sep-96	0.067	0.145	0.075	0.279
Bldg1106_GP04	19-Sep-96	0.054	0.269	<0.06	0.37
Bldg1106_GP05	20-Sep-96	0.132	0.292	0.181	0.625
Bldg1106_GP06	20-Sep-96	<0.05	0.175	<0.06	0.178
Bldg1106_GP07	19-Sep-96	0.056	0.136	<0.06	0.186
Bldg1106_GP08	20-Sep-96	0.088	0.199	0.131	0.517
Bldg1106_GP09	19-Sep-96	0.087	0.216	0.068	0.187
Bldg1106_GP10	19-Sep-96	0.081	0.186	0.192	1.05
Bldg1106_GP11	20-Sep-96	<0.05	<0.08	<0.06	<0.15
Bldg1106_GP12	20-Sep-96	0.108	0.237	0.092	0.457

Table D4

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1106_GP13	19-Sep-96	0.096	0.242	<0.06	0.214
Bldg1106_GP14	20-Sep-96	0.067	0.194	<0.06	0.489
Bldg1106_GP15	20-Sep-96	0.102	0.195	0.075	0.936
Bldg1106_GP16	20-Sep-96	0.077	0.29	0.108	0.701
Bldg1115_HP01	15-Nov-93	3,200D	310D	1,900D	980D
Bldg1115_HP02	17-Nov-93	1.5	5.9	1.3	2.2
Bldg1115_HP03	17-Nov-93	0.8	3.8	2.1	2.6
Bldg1115_HP04	17-Nov-93	0.7	7.8	<0.5	<0.5
Bldg1115_HP05	12-Nov-93	3.1	27	2.8	7.2
Bldg1115_HP06	12-Nov-93	2,900D	1,700D	500D	1,100D
Bldg1115_HP07	16-Nov-93	<0.5	1.0	<0.5	1.7
Bldg1115_HP08	17-Nov-93	1.6	1.1	<0.5	<0.5
Bldg1115_HP09	12-Nov-93	110D	200D	43D	140D
Bldg1115_HP10	12-Nov-93	6.5	19	1.6	5.9
Bldg1115_GT01	16-Jun-93	570	4,800	1,300	4,800
	16-Jun-93	540	5,700	1,600	5,800
	06-Dec-93	<2.5	<2.5	8.0	22
	05-Jun-97	<0.5	1.2	1.3	2.9
	07-Jan-99	310B	19B	56	86B
	26-May-99	13	7.5	8.7	32
	12-Aug-99	8,300	130	730	1,400
	15-Feb-00	14	<1.0	4.0	4.0
	14-Nov-00	120D	35D	44D	71D
	24-Jan-01	25	1.3	7.0	7.8
	29-Jul-01	12	1.3	10	14
	02-Feb-02	4.0	<1.0	3.0	<3.0
	05-Aug-02	0.88J	<1.0	1.9	<3.0
	18-Feb-03	80	557B	41	201
	22-Aug-03	<1.0	<1.0	<1.0	<1.0
	21-Feb-04	29.7	2.7	10.5	8.3
	25-Aug-04	44.7	8.6	5.5	4.4
24-Mar-05	35.8	1.8	6.8	3.7	
17-Aug-05	268	2.7J	6.8	<15	
23-Jan-06	1,120	18.6	99.2	84.4	
23-Jan-06	1,100	19	110B	86.3	
03-Oct-06	2,720	480	478	189	
24-Aug-07	<1.0	<1.0	<1.0	<3.0	
23-Oct-08	<1.0	<1.0	<1.0	<3.0	
Bldg1115_GT02	16-Jun-93	26,000	49,000	5,700	17,000
	16-Dec-93	23,000	35,000	5,100	15,000
	17-Feb-00	43,000D	100,000D	14,000D	50,000D
	14-Nov-00	21,000D	51,000D	9,800D	37,000D

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_GT03	16-Jun-93	12,000	32,000	4,000	14,000
	04-Jun-97	109D	8.0D	28D	129D
	17-Feb-00	920D	5,800D	920D	3,200D
	14-Nov-00	1,800D	3,900D	880D	1,900D
	23-Oct-08	186	18,100	3,890	13,600
	11-Mar-09	184	8,850	3,400	10,600
Bldg1115_GT04	16-Jun-93	3,200	17,000	2,900	11,000
	16-Dec-93	430	3,100	1,100	6,200
	04-Jun-97	22D	11D	150D	134D
	17-Feb-00	140D	420D	1,100D	9,300D
	15-Nov-00	120D	140	98D	550D
	07-Nov-08	39	1,200	352	1,790
Bldg1115_GT05	11-Mar-09	53.6	626	313	2,180
	16-Jun-93	84J	270J	39J	110J
	16-Jun-93	31J	45J	9.1J	23J
	04-Jun-97	4.2	2.7	<0.5	2.3
	17-Feb-00	20	1.0	8.0	43
	14-Nov-00	7.0D	4.0	27D	203
Bldg1115_GT06	16-Jun-93	17,000	38,000	5,200	15,000
	17-Feb-00	8,400D	25,000D	4,700D	12,400D
	14-Nov-00	4,000D	9,500D	3,000D	9,900D
	23-Oct-08	1,770	476	452	331
	11-Mar-09	4,000	3,060	1,010	1,630
Bldg1115_GT07	16-Jun-93	19	80	15	43
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	16-Feb-00	540D	68D	<20D	<40D
	15-Nov-00	1,000D	21	11	12
	12-Aug-02	2.9	<1.0	1.6	<3.0
	17-Feb-03	205	<1.0	<1.0	<3.0
	20-Aug-03	235	0.65J	0.63J	<3.0
	21-Feb-04	0.74J	0.78J	<1.0	<3.0
	18-Aug-04	37.9	8.2	1.5	4.4
	24-Mar-05	11	2.2	<1.0	1.2J
	17-Aug-05	22.7	<1.0	<1.0	<3.0
	25-Jan-06	421	2.6	1.3	<3.0
	09-Oct-06	220	<1.0	2.1	<3.0
	21-Aug-07	0.65J	0.95J	0.35J	1.7J
	26-Feb-08	71	<1.0	0.89J	<3.0
21-Oct-08	<1.0	<1.0	<1.0	<3.0	
Bldg1115_GT08	16-Jun-93	14	20	7.9	18
	16-Jun-93	13	18	7.5	17
	04-Jun-97	<0.5	<0.5	<0.5	<1.5

Table D4

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_GT08—Cont.	16-Feb-00	1.0	2.0	<1.0	<2.0
	13-Nov-00	4.0	<1.0	<1.0	<2.0
	18-Jul-02	<1.0	<1.0	<1.0	<2.0
	21-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1115_GT09	16-Jun-93	8.5	64	21	63
	04-Jun-97	<0.5	1.6	<0.5	2.4
	16-Feb-00	96D	<5.0D	<5.0D	<10D
	13-Nov-00	3.0	<1.0	<1.0	<2.0
	07-Aug-02	0.79J	<1.0	<1.0	<3.0
	07-Aug-02	0.92J	<1.0	<1.0	<3.0
	21-Feb-03	20.3	2.3	2.0	<3.0
	21-Feb-03	21.1	2.5	2.0	1.3J
	20-Aug-03	<1.0	<1.0	<1.0	<3.0
	20-Aug-03	<1.0	<1.0	<1.0	<3.0
	24-Feb-04	<1.0	<1.0	<1.0	<3.0
	24-Feb-04	<1.0	<1.0	<1.0	<3.0
	27-Aug-04	3.2	0.76J	<1.0	<3.0
	27-Aug-04	3.4	0.79J	<1.0	<3.0
	22-Mar-05	<1.0	<1.0	<1.0	<3.0
	22-Mar-05	<1.0	<1.0	<1.0	<3.0
	17-Aug-05	<1.0	<1.0	<1.0	<3.0
	23-Jan-06	154	22.3	4.7	13.5
	02-Oct-06	9.7	2.2	1.2	1.8J
	26-Feb-08	2.3	<1.0	0.21J	<3.0
21-Oct-08	16.7	0.4J	<1.0	<3.0	
Bldg1115_GT10	16-Jun-93	21,000	39,000	3,700	16,000
Bldg1115_MW01	06-Dec-93	<0.5	<0.5	<0.5	0.7
	05-Jun-97	1.3	0.8	<0.5	<1.5
	07-Jan-99	310B	29B	56	100B
	16-Feb-00	<1.0	<1.0	<1.0	<2.0
	25-May-00	<1.0	<1.0	<1.0	<1.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	24-Jan-01	29	0.37J	5.6	1.9
	24-Jan-01	32	0.39J	5.3	1.4
	29-Jul-01	14	1.1	0.27J	<1.0
	02-Feb-02	6.0	<1.0	<1.0	<1.0
	05-Aug-02	<1.0	<1.0	<1.0	<3.0
	17-Feb-03	187	1.0	<1.0	1.6J
	20-Aug-03	<1.0	<1.0	<1.0	<3.0
	21-Feb-04	<1.0	1.0	<1.0	<3.0
	18-Aug-04	17.7	4.6	0.92J	2.9
	18-Aug-05	<1.0	<1.0	<1.0	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW01—Cont.	18-Aug-05	<1.0	0.51J	<1.0	<3.0
	23-Jan-06	<1.0	<1.0	<1.0	<3.0
	03-Oct-06	163	43.1	30.3	18.8
	21-Aug-07	<1.0	<1.0	<1.0	<3.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1115_MW02	06-Dec-93	<0.5	<0.5	<0.5	<0.5
	06-Dec-93	<0.5	0.8	<0.5	<0.5
	05-Jun-97	0.9	1.1	<0.5	<1.5
	06-Jan-99	29	20	7.2	22
	12-Aug-99	53	1.9	3.5	9.6
	15-Feb-00	<1.0	<1.0	<1.0	<2.0
	25-May-00	<1.0	<1.0	<1.0	<1.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	24-Jan-01	150	1.2J	16	4.5
	29-Jul-01	51	0.87J	0.24J	<1.0
	02-Feb-02	11.9	<1.0	0.6J	<15
	05-Aug-02	9.3	1.3	1.7	7.3
	19-Feb-03	125	6.4	6.6	3.7
	19-Aug-03	3.1	<1.0	<1.0	<3.0
	25-Feb-04	10.9	<1.0	<1.0	<3.0
	19-Aug-04	24.3	0.52J	<1.0	<3.0
	18-Aug-05	<1.0	0.51J	<1.0	<3.0
	20-Jan-06	14.9	<1.0	<1.0	<3.0
	02-Oct-06	28.3	<1.0	<1.0	<3.0
23-Aug-07	<1.0	<1.0	<1.0	<3.0	
23-Aug-07	<1.0	<1.0	<1.0	<3.0	
24-Oct-08	<1.0	<1.0	<1.0	<3.0	
Bldg1115_MW03	16-Dec-93	11	44	3.0	15
	05-Jun-97	<0.5	<0.5	<0.5	<1.5
	15-Feb-00	<1.0	<1.0	<1.0	<2.0
	13-Nov-00	11	<1.0	<1.0	<2.0
Bldg1115_MW04	06-Dec-93	<0.5	<0.5	<0.5	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	07-Jan-99	190B	24B	43	91B
	12-Aug-99	28	1.1	1.9	5.5
	15-Feb-00	<1.0	<1.0	<1.0	<2.0
	25-May-00	<1.0	<1.0	<1.0	<1.0
	25-May-00	<1.0	<1.0	<1.0	<1.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	23-Jan-01	640	7.7J	140	67
	23-Jan-01	660	7.6J	140	66
	27-Jul-01	210	<10	76	65

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW04—Cont.	02-Feb-02	22.6	<1.0	2.1	1.7
	07-Aug-02	31.5	<1.0	2.7	3.1
	19-Feb-03	128	3.8	13.7	<6.0
	19-Aug-03	<1.0	<1.0	<1.0	<3.0
	25-Feb-04	16.8	<50	<50	<50
	19-Aug-04	31.5	1.1	<1.0	<3.0
	10-Mar-05	42.7	0.55J	<1.0	<3.0
	18-Aug-05	0.63J	1.6	<1.0	<3.0
	20-Jan-06	9.0	<1.0	<1.0	<3.0
	02-Oct-06	56.6	1.1	<1.0	<3.0
	22-Aug-07	<1.0	<1.0	<1.0	<3.0
	23-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1115_MW05	06-Dec-93	4,600	26,000	6,100	20,000
	23-Feb-00	1,500D	6,700D	5,700D	18,700D
Bldg1115_MW06	16-Dec-93	3.5	<0.5	<0.5	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	22-Feb-00	5.0	<1.0	<1.0	<2.0
	13-Nov-00	81D	<1.0	<1.0	<2.0
	13-Nov-00	67D	<1.0	<1.0	<2.0
	23-Oct-08	24	<1.0	<1.0	<3.0
Bldg1115_MW07	16-Dec-93	6,100	14,000	1,800	7,000
	15-Nov-00	3,000D	7,700D	1,100D	3,700D
	17-Jul-02	6,000D	16,000D	2,200D	7,300D
	22-Aug-07	6,230	8,400	1,560	3,920
	27-Feb-08	4,250	6,350B	1,040	3,530
	27-Oct-08	2,180	3,410	745	2,930
	12-Mar-09	2,810	8,510	1,180	4,640
Bldg1115_MW08	16-Dec-93	0.7	1.6	0.8	2.2
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	15-Feb-00	<1.0	<1.0	<1.0	<2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	23-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1115_MW09	06-Dec-93	<0.5	<0.5	<0.5	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	15-Feb-00	710D	<20D	<20D	<40D
	14-Nov-00	800D	23D	11	11
	18-Jul-02	150D	<8.0D	<8.0D	<16D
	18-Jul-02	140D	<8.0D	<8.0D	<16D
	22-Aug-07	21.4	<1.0	<1.0	<3.0
	22-Aug-07	120	<2.0	<2.0	<6.0
	26-Feb-08	107	<2.0	0.47J	<6.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW09—Cont.	22-Oct-08	125	0.41J	0.5J	<3.0
	09-Apr-09	460	<10	6.4	<30
Bldg1115_MW10	16-Dec-93	120	21	22	200
	04-Jun-97	3.1	0.9	8.3	10.4
	17-Feb-00	11D	<1.0D	13D	15D
	15-Nov-00	200D	2.0	35	<2.0
	23-Oct-08	3.7	<1.0	1.2	<3.0
Bldg1115_MW11	16-Dec-93	1,800	820	340	630
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	15-Feb-00	150D	<5.0D	<5.0D	<10D
	15-Nov-00	140D	6.0	3.0	15
	23-Oct-08	57.6	<1.0	<1.0	<3.0
Bldg1115_MW12	16-Dec-93	23,000	58,000	8,700	28,000
	23-Feb-00	4,200D	6,500D	460D	950D
	23-Feb-00	4,300D	6,700D	490D	1,000D
	15-Nov-00	2,000D	1,400D	240D	780
	23-Oct-08	214	244	55	206
	11-Mar-09	83.6	29.8	21.9	43.6
Bldg1115_MW13	16-Dec-93	5,200	160	590	750
	04-Jun-97	10,800D	240D	680D	1,320D
	07-Jan-99	15,000	220	930	1,500
	12-Aug-99	230	5.0	30	56
	17-Feb-00	14,000D	<500D	850D	<1,000D
	26-May-00	13,000	<200	770	910
	24-Jan-01	6,400	39J	460	210
	30-Jul-01	2,300	8.7J	230	56
	30-Jul-01	2,200	<50	210	44J
	02-Feb-02	298	2.7	40.9	16.5
	02-Feb-02	297	2.9	42.7	17.5
	12-Aug-02	95.5	<5.0	40.1	16.8
	19-Feb-03	872	28.3	62.2	21.5J
	20-Aug-03	340	<2.0	72.4	16.6
	24-Feb-04	228	<5.0	53	11.7
	25-Aug-04	202	11.8	47.6	16.3
	22-Mar-05	82.1	0.67J	36.3	11.8
	17-Aug-05	61.6	<10	31.2	<30
	23-Jan-06	263	13.5	32	23.5
	03-Oct-06	278	25.7	26.6	32
24-Aug-07	78.5	0.35J	7.6	5.2	
25-Feb-08	40.8	0.37J	0.75J	2.4	
23-Oct-08	<1.0	<1.0	<1.0	<3.0	
10-Mar-09	<1.0	<1.0	<1.0	<3.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW14	16-Dec-93	30	24	11	18
	04-Jun-97	11,760D	16,020D	1,440D	4,420D
	15-Feb-00	120D	130D	41D	141D
	18-Jul-02	6,600D	<200D	390D	450D
	18-Jul-02	6,700D	<200D	390D	450D
	22-Aug-07	170	<2.0	<2.0	<6.0
	25-Feb-08	229	2.4	1.1	1.1J
	23-Oct-08	1,050	<10	<10	<30
	10-Mar-09	725	0.68J	0.59J	<3.0
Bldg1115_MW15	16-Dec-93	5,200	230	1,100	1,600
	04-Jun-97	16,500D	338D	934D	2,026D
	23-Feb-00	10,000D	<400D	<400D	<800D
	18-Jul-02	2,300D	<80D	280D	<160
	24-Aug-07	<1.0	<1.0	<1.0	<3.0
	23-Oct-08	<1.0	0.38J	<1.0	<3.0
Bldg1115_MW16	16-Dec-93	4,200	7,200	1,500	6,000
Bldg1115_MW17	19-Jul-95	6,290	174	542	1,080
	04-Jun-97	7,900D	145D	670D	1,360D
	07-Jan-99	9,200	140	830	1,700
	12-Aug-99	9,200	100	100	100
	15-Feb-00	7,800D	<400D	550D	<800D
	22-Feb-00	3,900D	12,000D	1,800D	8,400D
	25-May-00	8,900	<150	780	880
	13-Nov-00	9,400D	66	1,000D	890
	23-Jan-01	7,900	56J	750	400
	27-Jul-01	7,400	<400	840	670
	02-Feb-02	8,670	<100	973	1,050
	07-Aug-02	7,770	10	76.3	99.4
	19-Feb-03	3,490	<50	196	<150
	19-Aug-03	84.3	<2.0	63.4	<5.0
	25-Feb-04	36.9	2.5	3.5	<6.0
	19-Aug-04	34.1	1.4J	<2.0	2.9J
	10-Mar-05	72.3	<5.0	<5.0	<15
	18-Aug-05	9.5	<1.0	<1.0	2.4J
	20-Jan-06	39.3	1.1	0.86J	<3.0
	02-Oct-06	168	2.4	4.2	4.0
22-Aug-07	304	<5.0	29.6	7.3J	
25-Feb-08	442	<5.0	21.4	11.4	
23-Oct-08	494	<5.0	11.9	15.4	
10-Mar-09	372	1.1	13.4	18.8	
Bldg1115_MW18	20-Jul-95	14,200	1,780	1,090	1,960
	05-Jun-97	4,820D	420D	6.2	380D

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW18—Cont.	06-Jan-99	16,000	2,100	850	1,800
	12-Aug-99	990	17	63	70
	22-Feb-00	280D	<20D	<20D	<40D
	26-May-00	1,200	<20	53	<20
	13-Nov-00	280D	1.0	13D	8.0
	22-Jan-01	420	2.3J	21	6.9
	29-Jul-01	20	4.8	2.2	3.8
	29-Jul-01	3.1	2.1	0.51J	1.4
	02-Feb-02	29.2	1.2	1.2	0.96J
	02-Feb-02	30.2	1.2	1.3	<15
	07-Aug-02	33.8	1.5	2.1	5.1
	20-Aug-03	215	1.4J	4.1	4.6
	02-Mar-04	2,630	5.6	76.8	15.7
	22-Mar-05	9.6J	2.0	4.6	9.6
	25-Jan-06	<1.0	<1.0	<1.0	<3.0
	25-Jan-06	<1.0	<1.0	<1.0	<3.0
	22-Aug-07	5.5	0.27J	<1.0	<3.0
26-Feb-08	3.1	0.29J	0.33J	<3.0	
21-Oct-08	9.7	0.45J	0.5J	<3.0	
Bldg1115_MW19	20-Jul-95	16,500	10,800	1,190	5,100
	05-Jun-97	13,900D	9,400D	986D	3,456D
	22-Feb-00	15,000D	10,000D	<1,000D	<2,000D
	16-Nov-00	2,200D	33	120D	113
	17-Jul-02	2,400D	<100	200	250
	27-Oct-08	<1.0	0.36J	<1.0	<3.0
Bldg1115_MW20	20-Jul-95	16,200	24,800	1,610	7,810
	05-Jun-97	15,000D	20,600D	1,650D	6,300D
	23-Feb-00	19,000D	28,000D	<2,000D	<2,000D
	16-Nov-00	23,000D	31,000D	2,200D	8,200D
	18-Jul-02	15,000D	16,000D	1,500D	5,300D
	20-Aug-07	18,700	106J	1,190	2,510
	27-Feb-08	3,280	44.1	74.4	35.7J
	27-Oct-08	7,670	91.7	527	952
	11-Mar-09	14,300	119	729	2,140
	11-Mar-09	14,100	131	810	2,190
Bldg1115_MW21	19-Jul-95	1,120	9.4	2.8	9.8
	05-Jun-97	890D	3.8	<0.5	<1.5
	06-Jan-99	2,000	21J	<50	27J
	12-Aug-99	1,600	<20	<20	<20
	15-Feb-00	1,300D	<50D	<50D	<100D
	25-May-00	2,200	<25	<25	<25
	13-Nov-00	1,600D	1.0	1.0	<2.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW21—Cont.	24-Jan-01	1,200	4.4J	55	21
	29-Jul-01	960	<20	5.2J	<20
	02-Feb-02	1,920	<5.0	<5.0	<15
	05-Aug-02	620	<1.0	<1.0	<3.0
	19-Feb-03	727	7.8J	11.7	<30
	19-Aug-03	485	<1.0	<1.0	<3.0
	25-Feb-04	607	<5.0	<5.0	<15
	19-Aug-04	521	<10	<10	<30
	10-Mar-05	338	<1.0	<1.0	<3.0
	18-Aug-05	282	<5.0	<5.0	<15
	20-Jan-06	175	<1.0	<1.0	<3.0
	02-Oct-06	197	1.1J	<2.0	<3.0
	23-Aug-07	45.2	<1.0	<1.0	<3.0
	25-Feb-08	1.7	<1.0	0.34J	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1115_MW22	19-Jul-95	1,790	21.2	12.5	2.7
	04-Jun-97	1,640D	100D	<25D	<25D
	07-Jan-99	460	1.4J	<5.0	<5.0
	12-Aug-99	1,100	<20	<20	29
	15-Feb-00	890D	<25D	<25D	<50D
	25-May-00	900	<10	<10	<10
	13-Nov-00	1,100D	5.0	7.0	<2.0
	23-Jan-01	940	4.2J	5.6J	<10
	27-Jul-01	700	<40	<40	<40
	02-Feb-02	1,250	<1.0	<1.0	<3.0
	07-Aug-02	<1.0	<1.0	<1.0	<3.0
	04-Sep-02	251	<5.0	<5.0	<15
	19-Feb-03	1,320	21	<20	<60
	19-Aug-03	1,930	<10	4.4	1.0J
	25-Feb-04	2,230	<50	<50	<50
	19-Aug-04	3,270	<50	<50	<150
	10-Mar-05	2,850	20.3	<20	<60
	22-Mar-05	31.1	3.3	<1.0	<3.0
	18-Aug-05	3,380	32.4	<50	<150
	20-Jan-06	1,830	16.4	6.0	14.4
	02-Oct-06	3,880	35.7	<20	32.6J
22-Aug-07	600	<10	<10	<30	
25-Feb-08	174	0.65J	0.59J	<6.0	
23-Oct-08	305	<5.0	<5.0	<15	
10-Mar-09	314	<1.0	<1.0	<3.0	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW23	20-Jul-95	8,220	3,460	213	1,220
	05-Jun-97	9,700D	4,320D	340D	1,720D
	06-Jan-99	15,000	5,700	500	1,900
	12-Aug-99	5,000	180	140	420
	22-Feb-00	480D	<40D	<40D	<80D
	26-May-00	270	<25	34	40
	13-Nov-00	6.0D	<1.0	6.0D	<2.0
	22-Jan-01	4.7J	1.1J	4.9J	5.6
	29-Jul-01	13	2.8	1.1	2.2
	02-Feb-02	22	<1.0	<1.0	<15
	18-Feb-03	0.98J	<1.0	<1.0	<15
	20-Aug-03	260	2.2	5.2	7.6
	21-Feb-04	703	98.7	14.8	35.9
	18-Aug-04	2,720	267	38.6	112
	22-Mar-05	3,120	346	54.3	208
	17-Aug-05	5,240	653	91.7	315
	23-Jan-06	7,230	441	124	318
	02-Oct-06	1,910	198	49.6	96.4
	22-Aug-07	<5.0	<5.0	<5.0	<15
	21-Oct-08	<2.0	0.71J	<2.0	<6.0
Bldg1115_MW24	19-Jul-95	699	12.3	2.9	<1.5
	05-Jun-97	708D	<10D	<10D	<30D
	06-Jan-99	1,800	55	22J	64
	12-Aug-99	2,400	<40	<40	<40
	15-Feb-00	2,700D	<100D	<100D	<200D
	15-Feb-00	2,800D	<100D	<100D	<200D
	25-May-00	3,200	<40	<40	<40
	13-Nov-00	3,100D	<1.0	7.0	<2.0
	24-Jan-01	2,700	32J	49	89
	29-Jul-01	2,900	<50	13J	<50
	02-Feb-02	2,480	<5.0	5.2	<15
	05-Aug-02	3,060	0.76J	1.5	1.0J
	19-Feb-03	4,120	<50	<50	<150
	19-Aug-03	3,990	<50	<50	<150
	25-Feb-04	4,100	<50	<50	<150
	19-Aug-04	3,630	<50	<50	<150
	10-Mar-05	1,030	23.2	<20	<60
	18-Aug-05	3,120	<50	<50	<150
	20-Jan-06	1,750	0.69J	<1.0	<3.0
	02-Oct-06	2,250	<50	<50	<150

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1115_MW24—Cont.	23-Aug-07	4.4	<1.0	<1.0	<3.0
	25-Feb-08	1.4	<1.0	0.36J	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
Bldg1115_MW25	24-Jul-95	523	4.0	2.4	<1.5
	04-Jun-97	86D	1.5	1.4	<1.5
	07-Jan-99	63B	13B	20	44B
	12-Aug-99	240	6.4	39	73
	22-Feb-00	340D	<25D	<25D	<50D
	26-May-00	650	<10	29	32
	24-Jan-01	1,100	15	53	33
	29-Jul-01	29	3.1	15	7.9
	02-Feb-02	3.1	<1.0	0.57J	<1.0
	12-Aug-02	1,850	37.1	<20	<60
	04-Sep-02	1,660	47.9	<20	<60
	19-Feb-03	2,840	150	<50	<150
	22-Aug-03	3,300	292	8.2	15.3
	24-Feb-04	3,580	362	<50	63.2
	25-Aug-04	5,960	650	40.4J	120
	22-Mar-05	5,170	418	47.3	157
	17-Aug-05	4,990	678	58.3	216
	23-Jan-06	5,000	225	61.7	256J
	03-Oct-06	5,160	285	54.6J	174
	24-Aug-07	0.83J	<1.0	<1.0	0.65J
25-Feb-08	3.9	0.44J	0.61J	<3.0	
23-Oct-08	27.7	0.93J	<1.0	<3.0	
Bldg1310_MW01	15-Oct-93	<1.0	<1.0	<1.0	<1.0
	18-Oct-93	<1.0	NA	ND	NA
Bldg1310_MW02	15-Oct-93	<1.0	<1.0	<1.0	<1.0
	18-Oct-93	<1.0	NA	ND	NA
Bldg1310_MW03	15-Oct-93	<1.0	<1.0	<1.0	<1.0
Bldg1323_TMW01	25-Mar-03	<1.0	<1.0	<1.0	<2.0
Bldg1450_GP01	23-Jul-96	0.079	0.23	<0.06	0.18
	23-Jul-96	NA	NA	NA	NA
Bldg1450_GP02	23-Jul-96	NA	NA	NA	NA
	23-Jul-96	0.087	0.17	<0.06	<0.15
Bldg1450_GP03	23-Jul-96	NA	NA	NA	NA
	23-Jul-96	0.133	0.22	<0.06	<0.15
Bldg1450_GP04	23-Jul-96	NA	NA	NA	NA
	23-Jul-96	0.087	0.17	<0.06	0.26
Bldg1450_GP05	23-Jul-96	NA	NA	NA	NA
	23-Jul-96	0.095	0.17	<0.06	0.19

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1450_GP06	17-Jul-96	NA	NA	NA	NA
	17-Jul-96	0.082	0.11	0.09	0.3
Bldg1450_GP07	18-Jul-96	NA	NA	NA	NA
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP08	18-Jul-96	NA	NA	NA	NA
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP09	18-Jul-96	NA	NA	NA	NA
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP10	17-Jul-96	NA	NA	NA	NA
	17-Jul-96	<0.05	0.09	<0.06	0.2
Bldg1450_GP11	19-Jul-96	NA	NA	NA	NA
	19-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP12	19-Jul-96	NA	NA	NA	NA
	19-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP13	18-Jul-96	76.6	63.5	53.2	71.5
	18-Jul-96	NA	NA	NA	NA
	18-Jul-96	75.3	68.7	50.2	70.6
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP14	18-Jul-96	<0.5	<0.5	<0.5	<1.5
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP15	18-Jul-96	NA	NA	NA	NA
	18-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP16	18-Jul-96	NA	NA	NA	NA
	18-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP17	17-Jul-96	<0.5	<0.5	<0.5	<1.5
	17-Jul-96	ND	ND	ND	ND
Bldg1450_GP18	18-Jul-96	<0.5	<0.5	<0.5	<1.5
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP19	18-Jul-96	NA	NA	NA	NA
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP20	18-Jul-96	<0.5	<0.5	<0.5	<1.5
	18-Jul-96	NA	NA	NA	NA
Bldg1450_GP21	23-Jul-96	NA	NA	NA	NA
	23-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP22	17-Jul-96	<0.5	<0.5	<0.5	<1.5
	17-Jul-96	NA	NA	NA	NA
Bldg1450_GP23	23-Jul-96	NA	NA	NA	NA
	23-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP24	23-Jul-96	<0.5	<0.5	<0.5	<1.5
	23-Jul-96	ND	ND	ND	ND
Bldg1450_GP25	24-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP26	25-Jul-96	<0.5	<0.5	<0.5	<1.5

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1450_GP27	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP28	24-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP29	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP30	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP31	24-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP32	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP33	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP34	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP35	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP36	24-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP37	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP38	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP39	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_GP40	25-Jul-96	<0.5	<0.5	<0.5	<1.5
Bldg1450_HP01	23-Oct-96	0.08	0.34	0.07	40
Bldg1450_HP02	22-Oct-96	<0.05	0.15	<0.06	<0.15
Bldg1450_HP03	22-Oct-96	<0.05	0.21	0.07	0.45
Bldg1450_HP04	25-Oct-96	0.146	2.03	0.09	0.49
Bldg1450_MW01	22-Aug-96	920	1,700	920	2,380
	16-Aug-99	25.8	212	110	289
Bldg1450_MW02	22-Aug-96	3.95	50.4	14.7	75.1
	16-Aug-99	<1.0	3.47	<2.0	5.7
Bldg1450_MW03	22-Aug-96	2,300	11,000	1,800	7,900
	16-Aug-99	69.6	3,820	1,140	4,980
Bldg1450_MW04	31-Oct-96	0.126	<0.08	<0.06	<0.15
	16-Aug-99	<1.0	<2.0	<2.0	<2.0
Bldg1450_MW05	31-Oct-96	1,960	507	1,700	2,146
	31-Oct-96	1,890	494	1,720	2,303
	16-Aug-99	297	5,040	1,890	4,930
Bldg1450_MW06	31-Oct-96	0.141	<0.08	<6.0	0.34
Bldg1450_MW08	16-Aug-99	<1.0	<2.0	<2.0	<2.0
Bldg1502_MW01 (new)	04-Dec-01	<20D	<20D	800D	3,330D
	04-Dec-01	<20D	25D	800D	3,310D
Bldg1502_MW01 (old)	14-Jun-95	<0.2	<0.2	<0.02	<0.23
Bldg1502_MW02 (new)	04-Dec-01	<10D	11D	340D	2,150D
Bldg1502_MW02 (old)	14-Jun-95	<0.2	<0.2	<0.02	<0.23
Bldg1502_MW03	14-Jun-95	<0.2	<0.2	<0.02	<0.23
Bldg1502_MW04	14-Jun-95	<0.2	<0.2	<0.02	<0.23
Bldg1601_DP01	07-Oct-96	<0.5	27.4	0.7	<0.5
Bldg1601_DP02	07-Oct-96	<0.5	12.6	<0.5	<0.5
Bldg1601_DP03	07-Oct-96	<0.5	14.3	<0.5	<0.5
Bldg1601_DP04	07-Oct-96	<0.5	3.3	<0.5	<0.5

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1601_DP05	07-Oct-96	<0.5	18.9	<0.5	<0.5
Bldg1601_DP06	07-Oct-96	<0.5	18.6	<0.5	<0.5
Bldg1601_DP07	07-Oct-96	<0.5	3.1	<0.5	<0.5
Bldg1601_DP08	07-Oct-96	<0.5	6.8	<0.5	<0.5
Bldg1601_DP09	07-Oct-96	<0.5	5.2	2.1	7.0
Bldg1601_DP10	07-Oct-96	<0.5	7.7	0.8	<0.5
Bldg1601_DP11	07-Oct-96	<0.5	3.6	<0.5	<0.5
Bldg1601_DP12	07-Oct-96	<0.5	3.7	<0.5	<0.5
Bldg1601_DP13	07-Oct-96	<0.5	1.0	<0.5	<0.5
Bldg1601_DP14	07-Oct-96	<0.5	9.9	0.6	2.5
Bldg1601_DP15	07-Oct-96	<0.5	3.5	<0.5	<0.5
Bldg1601_DP16	07-Oct-96	<0.5	1.2	<0.5	<0.5
Bldg1607_MW01	18-Oct-93	<1.0	NA	NA	NA
	20-Oct-93	<1.0	<1.0	<1.0	<1.0
Bldg1607_MW02	18-Oct-93	<1.0	NA	NA	NA
	20-Oct-93	<1.0	<1.0	<1.0	<1.0
Bldg1607_MW03	19-Oct-93	<1.0	NA	NA	NA
	20-Oct-93	<1.0	<1.0	<1.0	<1.0
Bldg1607_MW07	16-Oct-97	<0.5	<0.5	<0.5	<1.5
Bldg1607_MW08	16-Oct-97	<0.5	<0.5	<0.5	<1.5
Bldg1613_HP01	28-Mar-95	<0.5	12.9	0.8	2.0
Bldg1613_HP02	29-Mar-95	<0.5	0.9	<0.5	2.7
Bldg1613_HP03	12-Apr-95	<0.5	<0.5	<0.5	<1.5
Bldg1613_HP04	06-Apr-95	<0.5	<0.5	<0.5	<1.5
Bldg1613_HP05	06-Apr-95	<0.5	10.6	0.8	2.1
Bldg1613_HP06	12-Apr-95	<0.5	<0.5	<0.5	<1.5
Bldg1613_HP07	05-Apr-95	<0.5	12.8	4.0	149
Bldg1613_HP08	05-Apr-95	17,300	20,700	2,140	10,800
Bldg1613_HP09	05-Apr-95	2.9	11.2	1.1	3.0
Bldg1613_HP10	06-Apr-95	<0.5	21.6	1.3	<1.5
Bldg1613_HP11	06-Apr-95	7,700	10,800	1,100	5,420
Bldg1613_HP12	05-Apr-95	<0.5	14.4	1.4	2.4
Bldg1613_HP13	06-Apr-95	<0.5	9.0	<0.5	<1.5
Bldg1613_HP14	05-Apr-95	0.6	1.5	<0.5	<1.5
Bldg1613_HP15	05-Apr-95	<0.5	44.9	1.7	55.1
Bldg1613_MW01	03-May-95	ND	ND	ND	ND
	21-Nov-99	<1.0	<1.0	<1.0	<1.0
	23-May-00	<1.0	<1.0	<1.0	<1.0
	24-Sep-00	<1.0	<1.0	<1.0	<1.0
	30-Sep-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW02	03-May-95	ND	ND	ND	ND
	21-Nov-99	<1.0	<1.0	<1.0	<1.0

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1613_MW02—Cont.	23-May-00	<1.0	<1.0	<1.0	<1.0
	24-Sep-00	<1.0	<1.0	<1.0	<1.0
	30-Sep-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW03	03-May-95	ND	ND	ND	ND
	26-Sep-00	<1.0	<1.0	<1.0	<3.0
	06-Oct-04	<1.0	1.4	1.0	3.9
Bldg1613_MW04	03-May-95	ND	ND	ND	ND
	21-Nov-99	<1.0	<1.0	<1.0	<1.0
	26-Sep-00	<1.0	<1.0	<1.0	<3.0
	01-Oct-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW05	03-May-95	ND	ND	ND	ND
	21-Nov-99	<1.0	<1.0	<1.0	<1.0
	23-May-00	<1.0	<1.0	<1.0	<1.0
	24-Sep-00	<1.0	<1.0	<1.0	<1.0
	30-Sep-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW06	03-May-95	ND	ND	ND	ND
	21-Nov-99	<1.0	<1.0	<1.0	<1.0
	23-May-00	<1.0	<1.0	<1.0	<1.0
	24-Sep-00	<1.0	<1.0	<1.0	<1.0
	30-Jun-01	<1.0	<1.0	<1.0	<1.0
	19-Dec-01	<1.0	<1.0	<1.0	<3.0
	25-Jun-02	<1.0	<1.0	<1.0	<1.0
	17-Dec-02	<1.0	<1.0	<1.0	<1.0
	24-Jun-04	<1.0	0.81	<1.0	<3.0
	30-Sep-04	<1.0	<1.0	<1.0	<3.0
07-Apr-06	<0.316	<0.302	<0.299	<0.596	
Bldg1613_MW07	03-May-95	ND	ND	ND	ND
	26-Sep-00	<1.0	<1.0	<1.0	<3.0
	30-Sep-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW08	03-May-95	ND	ND	ND	ND
	25-Sep-00	<1.0	<1.0	<1.0	<3.0
	01-Oct-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW09	03-May-95	ND	ND	ND	ND
	23-Jul-97	<0.5	<0.5	<0.5	<0.5
	26-Sep-00	<1.0	<1.0	<1.0	<3.0
	06-Oct-04	<1.0	1.8	1.3	4.8
Bldg1613_MW10	03-May-95	804	6,780	1,280	9,290
	21-Nov-99	<100	<100	<100	<100
	23-May-00	17	680	180	1,800
	23-May-00	<80	830	210	2,200
	24-Sep-00	<25	47.2	42.3	424
	24-Sep-00	<50	51	<50	390

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1613_MW10—Cont.	30-Jun-01	<50	82	<50	850
	30-Jun-01	<50	61	<50	830
	20-Dec-01	2.0	157	875	983
	20-Dec-01	<10	154	103	932
	26-Jun-02	<20	632	342	2,280
	26-Jun-02	5.1	675	372	2,280
	17-Dec-02	<10	<10	145	998
	17-Dec-02	<10	<10	149	1,010
	24-Jun-04	<1.0	0.96	<1.0	2.2
	24-Jun-04	<1.0	2.0	<1.0	3.0
	08-Oct-04	<1.0	<1.0	<1.0	<3.0
	07-Apr-06	<0.316	<0.302	<0.299	<0.596
	26-Jul-07	<0.183	<0.157	<0.181	<0.481
	09-Apr-08	0.73J	2.64	2.3	8.07J
Bldg1613_MW11	03-May-95	8.8	4.3	2.3	18.9
	21-Nov-99	23	120	8.9	200
	25-Sep-00	0.85J	<1.0	<1.0	<3.0
	30-Jun-01	3.0	17	1.4	27
	19-Dec-01	<1.0	<1.0	<1.0	<3.0
	26-Jun-02	3.9	13.9	0.93J	12.3
	17-Dec-02	<1.0	0.59	<0.5	<1.0
	24-Jun-04	0.95J	10.8	3.5	21.6
	06-Oct-04	<1.0	0.98J	0.83J	3.2
	06-Oct-04	<1.0	1.0	0.85J	3.2
	07-Apr-06	<0.316	<0.302	<0.299	<0.596
	26-Jul-07	<0.183	<0.157	<0.181	<0.481
	08-Apr-08	9.78	4.39	11.6	16.75
Bldg1613_MW12	03-May-95	ND	ND	ND	ND
	23-Jul-97	<0.5	<0.5	<0.5	<0.5
	25-Sep-00	0.63J	0.95J	<1.0	1.7J
	06-Oct-04	<1.0	1.3	1.0	3.7
Bldg1613_MW13	03-May-95	ND	ND	ND	ND
	30-Sep-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW14	03-May-95	ND	ND	ND	ND
	26-Sep-00	<1.0	<1.0	<1.0	<3.0
	08-Oct-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW15	03-May-95	ND	ND	ND	ND
	25-Sep-00	<5.0	<5.0	<5.0	<15
	26-Sep-00	<1.0	<1.0	<1.0	<3.0
	01-Oct-04	<1.0	<1.0	<1.0	<3.0
	26-Jul-07	<0.183	<0.157	<0.181	<0.481
	09-Apr-08	2.18	4.2	1.4	7.46

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1613_MW16	03-May-95	5.0	2.4	ND	44.8
	26-Sep-00	<25	<25	<25	<25
	30-Jun-01	<1.0	1.7	<1.0	1.8
	20-Dec-01	<1.0	<1.0	<1.0	<3.0
	26-Jun-02	<1.0	<1.0	<1.0	<1.0
	17-Dec-02	<1.0	8.2	6.3	52.6
	24-Jun-04	<1.0	1.8	<1.0	3.6
	08-Oct-04	<1.0	<1.0	<1.0	<3.0
Bldg1613_MW17	21-Nov-99	1,100	4,100	250	3,600
	07-Oct-04	113	1,920	377	2,670
	26-Jul-07	<29.3	2,850D	245D	2,189D
	08-Apr-08	204	3,700D	383D	2,655D
Bldg1613_MW18	21-Nov-99	740	2,200	110	3,600
	07-Oct-04	<1.0	1.4	3.4	84.6
	26-Jul-07	2.0	<0.157	0.861J	28.3
	08-Apr-08	0.721J	1.95	0.733J	10.53
Bldg1613_MW19	21-Nov-99	<20	<20	<20	<20
	24-Sep-00	8.5	15	<5.0	95
	07-Oct-04	0.62J	<1.0	<1.0	2.1J
	26-Jul-07	<0.183	<0.157	<0.181	<0.481
	09-Apr-08	4.69	3.02	2.48	17.98
Bldg1613_MW20	26-Sep-00	<1.0	2.7	0.72J	9.4
	30-Jun-01	<1.0	6.2	<1.0	12
	19-Dec-01	<1.0	<1.0	<1.0	<3.0
	25-Jun-02	<1.0	0.87J	<1.0	2.7J
	17-Dec-02	<1.0	<0.5	<0.5	<1.0
	24-Jun-04	1.3	25.7	7.4	45.6
	04-Oct-04	0.77J	10.1	7.1	27.2
	26-Jul-07	<0.183	<0.157	<0.181	<0.481
09-Apr-08	0.839	3.33	0.587	1.94	
Bldg1613_MW21	26-Sep-00	<1.0	0.61J	<1.0	1.7J
	26-Sep-00	<1.0	0.64J	<1.0	2.0J
	30-Jun-01	1.0	9.4	<1.0	17
	19-Dec-01	<1.0	<1.0	<1.0	<3.0
	25-Jun-02	<1.0	1.8	<1.0	4.7
	17-Dec-02	<1.0	<0.5	<0.5	<1.0
	24-Jun-04	2.8	50.5	12.9	77.4
	04-Oct-04	356	1,250B	1,040B	3,520B
	26-Jul-07	<0.183	<0.157	<0.181	<0.481
09-Apr-08	0.996J	3.08	0.353J	4.15J	
Bldg1613_MW22	25-Sep-00	5,160	565	551	1,170
	30-Jun-01	1,700	1,300	<100	820

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1613_MW22—Cont.	20-Dec-01	539	376	<10	111
	26-Jun-02	437	1,080B	36.6	526
	17-Dec-02	11.2	25.6	2.0	13.3
	24-Jun-04	345	3,910	1,180	6,540
	04-Oct-04	3.2	30.6	16.1	62
	26-Jul-07	18.7J	1,260D	655D	3,010D
	08-Apr-08	6.05	5.37	13.4	16.42
Bldg1817_MW01	8/26/1997	<0.50	<0.50	<0.50	<0.50
Bldg1854_DP01	31-Jan-96	<0.5	1.2	1.4	3.2
	03-Apr-97	<0.5	13.7	0.84	4.8
Bldg1854_DP02	31-Jan-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	198	0.51	2.21
Bldg1854_DP03	31-Jan-96	<0.5	0.6	<0.5	1.5
	03-Apr-97	<0.5	5.11	<0.5	1.99
Bldg1854_DP04	31-Jan-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	1.03	<0.5	<1.5
Bldg1854_DP05	31-Jan-96	2.4	3.1	0.8	6.8
	03-Apr-97	<0.5	4.76	<0.5	1.81
Bldg1854_DP06	31-Jan-96	5.9	1.6	1.0	7.0
	03-Apr-97	<0.5	1.12	<0.5	1.53
Bldg1854_DP07	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	1.46	<0.5	2.13
Bldg1854_DP08	01-Feb-96	2.3	3.9	2.6	8.0
	03-Apr-97	<0.5	4.81	<0.5	3.17
Bldg1854_DP09	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	1.8	<0.5	1.82
Bldg1854_DP10	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	0.5	3.08	<0.5	<1.5
Bldg1854_DP11	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	2.88	<0.5	<1.5
	03-Apr-97	<0.5	1.09	<0.5	2.08
Bldg1854_DP12	01-Feb-96	3.5	0.9	2.0	5.2
	03-Apr-97	<0.5	2.94	<0.5	1.66
Bldg1854_DP13	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	9.63	0.59	3.17
Bldg1854_DP14	01-Feb-96	<0.5	<0.5	<0.5	1.7
	03-Apr-97	<0.5	24	0.51	2.36
Bldg1854_DP15	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	5.18	0.65	3.93
Bldg1854_DP16	01-Feb-96	<0.5	<0.5	<0.5	<1.5
	03-Apr-97	<0.5	7.52	<0.5	2.2

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg1854_MW01	27-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg1854_MW02	27-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg1854_MW03	27-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg1854_MW04	27-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg1854_MW05	27-Feb-96	22.7	0.9	1.4	<1.5
Bldg1854_MW06	27-Feb-96	3.2	2.0	1.2	4.0
Bldg1854_MW07	27-Feb-96	<0.5	<0.5	<0.5	<1.5
Bldg1854_MW08	27-Feb-96	<0.5	0.8	<0.5	<1.5
Bldg1880_GP01	25-Jan-96	0.06	0.17	ND	ND
Bldg1880_GP02	26-Jan-96	0.06	0.24	ND	ND
Bldg1880_GP03	26-Jan-96	0.08	0.25	ND	ND
Bldg1880_GP04	24-Jan-96	0.06	0.2	ND	ND
Bldg1880_GP05	24-Jan-96	ND	0.2	ND	0.45
	24-Jan-96	0.12	0.23	0.06	0.43
Bldg1880_GP06	25-Jan-96	0.09	0.56	ND	ND
Bldg1880_GP07	26-Jan-96	0.1	0.22	ND	ND
Bldg1880_GP08	25-Jan-96	0.06	0.24	ND	0.18
Bldg1880_GP09	25-Jan-96	0.07	0.3	ND	ND
Bldg1880_GP10	25-Jan-96	0.06	0.24	ND	0.16
Bldg1880_GP11	26-Jan-96	0.07	0.38	ND	ND
Bldg1880_GP12	25-Jan-96	0.07	0.15	ND	0.17
Bldg1880_HP13	27-Feb-96	<0.05	<0.08	<0.06	<0.15
Bldg1880_HP14	28-Feb-96	0.075	0.129	<0.06	0.191
Bldg1880_HP15	28-Feb-96	0.059	0.092	<0.06	0.25
Bldg1880_MW01	14-Mar-96	<0.05	<0.08	<0.06	<0.15
Bldg1880_MW02	14-Mar-96	0.094	<0.08	<0.06	<0.15
Bldg1880_MW03	14-Mar-96	<0.05	<0.08	<0.06	<0.15
Bldg1880_MW04	14-Mar-96	0.091	0.103	<0.06	<0.15
Bldg1880_MW05	14-Mar-96	<0.05	<0.08	<0.06	<0.15
Bldg1880_MW06	14-Mar-96	<0.05	<0.08	<0.06	<0.15
Bldg1880_MW07	14-Mar-96	<0.05	<0.08	<0.06	<0.15
	14-Mar-96	<0.05	<0.08	<0.06	<0.15
Bldg1880_TW08	08-Mar-96	0.103	0.221	0.084	0.293
Bldg1919-1_MW01	09-Aug-94	<1.0	<1.0	<1.0	<1.0
Bldg1919-1_MW02	09-Aug-94	<1.0	<1.0	<1.0	<1.0
Bldg1919-1_MW03	09-Aug-94	<1.0	<1.0	<1.0	<1.0
Bldg1919-2_MW01	25-Sep-01	<0.5	<0.5	<0.5	<0.5
Bldg1932_MW01	6/23/1994	<2.0	<2.0	<1.0	<1.0
Bldg1932_MW02	6/23/1994	<2.0	<2.0	<1.0	<1.0
Bldg1932_MW03	6/23/1994	<2.0	<2.0	<1.0	<1.0
Bldg5400_GP01	01-Aug-96	<0.5	3.1	<0.5	<1.5
Bldg5400_GP02	01-Aug-96	<0.5	4.4	<0.5	1.8

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
Bldg5400_GP03	01-Aug-96	<0.5	3.2	<0.5	<1.5
Bldg5400_GP04	02-Aug-96	<0.5	1.3	<0.5	<1.5
Bldg5400_GP05	01-Aug-96	<0.5	2.2	<0.5	<1.5
Bldg5400_GP06	02-Aug-96	<0.5	2.5	<0.5	<1.5
Bldg5400_GP07	02-Aug-96	<0.5	6.8	<0.5	<1.5
Bldg5400_GP08	01-Aug-96	<0.5	2.9	<0.5	<1.5
Bldg5400_GP09	01-Aug-96	<0.5	3.0	<0.5	2.6
Bldg5400_GP10	02-Aug-96	0.6	1.5	1.0	<1.5
Bldg5400_GP11	02-Aug-96	<0.5	2.3	1.0	5.4
Bldg5400_GP12	01-Aug-96	<0.5	2.8	<0.5	<1.5
Bldg5400_GP13	01-Aug-96	<0.5	1.1	1.0	<1.5
Bldg5400_GP14	02-Aug-96	<0.5	5.1	<0.5	<1.5
Bldg5400_GP15	01-Aug-96	<0.5	4.0	<0.5	<1.5
Bldg5400_GP16	02-Aug-96	<0.5	2.1	<0.5	<1.5
BldgFC40_TW01	25-Mar-03	<0.5	<0.5	<0.5	<1.5
BldgFC102_MW01 (new)	21-Oct-93	<1.0	<1.0	<1.0	<1.0
BldgFC102_MW02 (new)	21-Oct-93	<1.0	<1.0	<1.0	<1.0
BldgFC102_MW03 (new)	21-Oct-93	<1.0	<1.0	<1.0	<1.0
BldgFC120_MW01	25-Mar-93	<0.2	<0.5	<0.8	<1.7
BldgFC120_MW02	25-Mar-93	<0.2	<0.5	<0.8	<1.7
BldgFC120_MW03	25-Mar-93	<0.2	<0.5	<0.8	<1.7
BldgFC201E_E01	30-Mar-93	<0.2	<0.5	<0.8	<1.7
	30-Mar-93	0.3	<0.5	<0.8	<1.7
BldgFC201E_E02	30-Mar-93	<20	<50	<80	180
BldgFC201E_E03	30-Mar-93	<0.2	<0.5	<0.8	<1.7
	05-Apr-94	<0.5	0.5	<0.5	<0.5
BldgFC201E_MW05	23-Feb-94	<0.5	<0.5	ND	ND
BldgFC201E_MW06	17-Feb-94	<2.0	ND	ND	ND
	23-Feb-94	<0.5	1.8	<0.5	<0.5
BldgFC201E_MW08	18-Feb-94	<2.0	ND	ND	ND
	23-Feb-94	<0.5	1.8	<0.5	<0.5
BldgFC201E_MW10	22-Feb-94	<0.5	1.5	<0.5	<0.5
BldgFC201E_MW12	24-Mar-94	<0.5	1.8	<0.5	<0.5
BldgFC201E_MW13	24-Mar-94	<0.5	1.8	<1.5	<1.5
BldgFC201E_MW14	24-Mar-94	<0.5	1.8	<2.5	<2.5
BldgFC201E_MW15	24-Mar-94	<0.5	1.8	<3.5	<3.5
BldgFC201E_MW16	24-Mar-94	<0.5	1.8	<4.5	<4.5
BldgFC201W_MW01	01-Apr-93	<0.2	<0.5	<0.8	<1.7
BldgFC201W_MW02	01-Apr-93	<0.2	<0.5	<0.8	<1.7
BldgFC201W_MW03	01-Apr-93	<0.2	<0.5	<0.8	<1.7
BldgFC251_HP01	03-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgFC251_HP02	03-Apr-95	<0.5	<0.5	0.6	<1.5

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgFC251_HP03	03-Apr-95	<0.5	<0.5	0.6	<1.5
BldgFC251_HP04	04-Apr-95	<0.5	1.2	<0.5	1.9
	04-Apr-95	<0.5	1.2	<0.5	1.7
BldgFC251_HP05	04-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgFC251_MW01 (new)	26-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgFC251_MW01 (old)	09-Aug-94	<1.0	1.0	<1.0	<1.0
	03-Apr-95	<0.5	ND	ND	<1.5
BldgFC251_MW02 (new)	26-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgFC251_MW02 (old)	09-Aug-94	<1.0	1.0	<1.0	<1.0
	03-Apr-95	<0.5	ND	ND	<1.5
	15-May-97	<1.0	<1.0	<1.0	<2.0
	14-Aug-97	<1.0	<1.0	<1.0	<2.0
	12-Nov-97	<1.0	<1.0	<1.0	<2.0
	10-Feb-98	<1.0	<1.0	<1.0	<2.0
	18-May-98	<1.0	<1.0	<1.0	<2.0
BldgFC251_MW03 (new)	26-Apr-95	<0.5	ND	ND	<1.5
	15-May-97	<1.0	<1.0	<1.0	<2.0
	14-Aug-97	<1.0	<1.0	<1.0	<2.0
	12-Nov-97	<1.0	<1.0	<1.0	<2.0
	10-Feb-98	<1.0	<1.0	<1.0	<2.0
	18-May-98	<1.0	<1.0	<1.0	<2.0
BldgFC251_MW03 (old)	09-Aug-94	2,000	2,600	1,000	3,600
	03-Apr-95	1,260	3,130	944	3,790
	15-May-97	140	170	23	123
	14-Aug-97	510	1,500	360	1,430
	12-Nov-97	300	590	460	1,300
	10-Feb-98	230	600	360	1,300
	18-May-98	630	2,800	1,200	4,900
BldgFC251_MW04	26-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgFC251_MW05	26-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgFC251_MW06	26-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgFC251_MW07	26-Apr-95	<0.5	<0.5	<0.5	<1.5
	15-May-97	<1.0	<1.0	<2.0	<2.0
	14-Aug-97	<1.0	<1.0	<1.0	<2.0
	12-Nov-97	<1.0	<1.0	<1.0	<2.0
	10-Feb-98	<1.0	<1.0	<1.0	<2.0
	18-May-98	<1.0	<1.0	<1.0	<2.0
BldgFC251_MW08	26-Apr-95	2,510	4,030	442	2,520
BldgFC263_HP01	06-Feb-95	<0.5	<0.5	<0.5	<1.5
BldgFC263_HP02	07-Feb-95	<0.5	0.5	<0.5	<1.5
BldgFC263_HP03	07-Feb-95	<0.5	<0.5	<0.5	<1.5
BldgFC263_HP04	08-Feb-95	<0.5	<2.5	<0.5	<1.5
	08-Feb-95	<0.5	<1.5	<0.5	<1.5

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgFC263_HP05	09-Feb-95	<0.5	<0.5	<0.5	<1.5
	09-Feb-95	<0.5	<1.5	<0.5	<1.5
BldgFC263_HP06	09-Feb-95	<0.5	<2.5	<0.5	<1.5
BldgFC263_HP07	09-Feb-95	<0.5	0.5	<0.5	<1.5
BldgFC263_HP08	09-Feb-95	<0.5	0.5	<0.5	<1.5
BldgFC263_HP09	10-Feb-95	<0.5	<2.5	<0.5	<1.5
BldgFC263_HP10	10-Feb-95	<0.5	<0.5	<0.5	<1.5
BldgFC263_HP11	10-Feb-95	<0.5	0.5	<0.5	<1.5
BldgFC263_HP12	13-Feb-95	1.3	3.1	1.3	7.1
BldgFC263_HP13	13-Feb-95	<0.5	<0.5	<0.5	<1.5
BldgFC263_HP14	16-Feb-95	<0.5	<0.5	<0.5	<1.5
BldgFC263_MW01	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW02	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW03	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW04	14-Mar-95	<0.5	<0.5	0.7	<0.5
BldgFC263_MW05	14-Mar-95	<0.5	<0.5	0.6	<0.5
BldgFC263_MW06	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW07	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW08	14-Mar-95	1.2	<0.5	0.8	3.2
BldgFC263_MW09	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW10	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW11	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW12	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW13	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW14	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW15	14-Mar-95	<0.5	<0.5	<0.5	<0.5
BldgFC263_MW16	14-Mar-95	<0.5	4.3	<0.5	<0.5
BldgFC280_MW01	8/25/1997	<0.5	<0.5	<0.5	<1.5
BldgFC281_MW01	17-Aug-99	<1.0	<2.0	<2.0	<2.0
BldgH19_DP01	20-Feb-97	<0.05	1.24	<0.06	<0.17
BldgH19_DP02	20-Feb-97	<0.05	5.75	<0.06	<0.17
BldgH19_DP03	20-Feb-97	0.06	3.97	0.06	0.441
BldgH19_DP04	20-Feb-97	0.052	1.02	<0.06	<0.17
BldgH19_DP05	20-Feb-97	<0.05	1.54	<0.06	0.399
BldgH19_DP06	20-Feb-97	<0.05	0.577	<0.06	<0.17
BldgH19_DP07	20-Feb-97	0.052	6.91	0.126	0.321
BldgH19_DP08	20-Feb-97	0.085	1.8	0.061	<0.17
BldgH19_DP09	21-Feb-97	0.261	9.15	<0.06	0.719
BldgH19_DP10	20-Feb-97	0.15	14.8	2.64	40.5
BldgH19_DP11	21-Feb-97	0.215	6.87	2.95	9.94
BldgH19_DP12	21-Feb-97	0.228	5.37	0.171	0.553
BldgH19_DP16	21-Feb-97	0.079	8.62	<0.06	0.28
	21-Feb-97	<0.05	9.43	0.368	0.231

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgH19_DP18	21-Feb-97	0.146	2.84	<0.06	0.399
BldgH19_DP19	21-Feb-97	0.42	20.5	0.266	0.393
BldgH19_DP20	21-Feb-97	<0.05	7.41	1.8	8.65
BldgH19_MW01	08-Mar-95	<1.0	<1.0	<1.0	<1.0
	11-Oct-00	<0.5	<0.5	<0.5	<1.5
	11-Apr-01	<0.5	<0.5	<0.5	<1.5
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW02	08-Mar-95	<1.0	<1.0	<1.0	<1.0
	11-Feb-97	<0.05	<0.08	<0.06	<0.17
	11-Oct-00	<0.5	<0.5	<0.5	<1.5
	11-Apr-01	<0.5	<0.5	<0.5	<1.5
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW03	08-Mar-95	1.4	<1.0	<1.0	<1.0
	11-Oct-00	<0.5	<0.5	<0.5	<1.5
	11-Apr-01	<0.5	<0.5	<0.5	<1.5
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW04	08-Mar-95	<1.0	<1.0	<1.0	<1.0
	11-Feb-97	<0.05	<0.08	<0.06	<0.17
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW05	08-Mar-95	<1.0	<1.0	<1.0	<1.0
	11-Feb-97	<0.05	<0.08	<0.06	<0.17
	11-Oct-00	<0.5	<0.5	<0.5	<1.5
	11-Apr-01	<0.5	<0.5	<0.5	<1.5
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW06	08-Mar-95	<1.0	<1.0	<1.0	<1.0
	11-Feb-97	<0.05	0.164	<0.06	<0.17
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW07	08-Mar-95	<10	<10	<10	<10
	11-Oct-00	<0.5	<0.5	<0.5	<1.5
	11-Apr-01	<0.5	<0.5	<0.5	<1.5
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW08	27-Mar-97	<0.05	0.577	<0.06	<0.17
BldgH19_MW09	10-Apr-97	<0.05	0.577	<0.06	<0.17
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW10	27-Mar-97	<0.05	0.324	3.2	2.636
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW11	27-Mar-97	0.053	0.202	<0.06	0.186
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW12	27-Mar-97	<0.05	0.577	<0.06	<0.17
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH19_MW13	19-Mar-97	<5.0	ND	ND	ND
	10-Apr-97	0.059	0.112	<0.06	<0.17
	24-Nov-04	<0.5	<0.5	<0.5	<1.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgH19_MW14	27-Mar-97	<0.05	0.577	<0.06	<0.17
	24-Nov-04	<0.5	<0.5	<0.5	<1.0
BldgH28_MW01	20-May-92	ND	7.0	8.0	NA
BldgH28_MW02	20-May-92	ND	ND	ND	NA
BldgH28_MW03	29-Aug-91	<1.0	<1.0	<1.0	<1.0
	20-May-92	ND	ND	ND	NA
BldgH28_MW04	20-May-92	ND	ND	5.0	NA
BldgH28_MW05	20-May-92	ND	ND	8.0	NA
BldgH28_MW06	20-May-92	8.0	ND	18	NA
	31-Jan-98	ND	ND	ND	ND
	30-Apr-98	ND	ND	ND	ND
	31-Jul-98	ND	ND	4.99	3.26
	20-Aug-99	ND	ND	3.0	4.0
	17-Oct-00	<2.5	<2.5	9.0	<3.0
	12-Apr-01	<0.5	<0.5	3.0	7.0
	16-Jun-04	<1.0	<1.0	<1.0	<2.0
	17-Dec-04	<1.0	<1.0	<1.0	<2.0
	03-Jun-05	<1.0	<1.0	<1.0	<2.0
	13-Dec-05	<1.0	<1.0	<1.0	<2.0
	22-Aug-06	<1.0	0.473	<1.0	<2.0
	17-Jan-07	<1.0	0.802J	<1.0	<2.0
	BldgH28_MW07	20-May-92	ND	6.0	8.0
31-Jan-98		ND	ND	ND	ND
30-Apr-98		ND	ND	ND	ND
31-Jul-98		ND	ND	ND	ND
BldgH28_MW08	29-Aug-91	<1.0	<5.0	<5.0	<5.0
	20-May-92	ND	14	22	NA
	17-Oct-00	<0.5	<0.5	2.0	1.5
	16-Jun-04	<1.0	<1.0	<1.0	<4.0
	03-Jun-05	<1.0	<1.0	1.63	0.908J
	13-Dec-05	<1.0	<1.0	<1.0	<2.0
	22-Aug-06	<1.0	0.401	<1.0	<2.0
17-Jan-07	<1.0	0.783J	<1.0	<2.0	
BldgH28_MW09	29-Aug-91	10	14	<5.0	18
	12-May-92	ND	ND	ND	NA
	20-Oct-99	ND	ND	ND	ND
	17-Oct-00	<2.0	<2.0	9.0	<6.0
	17-Oct-00	<0.5	<0.5	<0.5	<1.5
	12-Apr-01	<0.5	<0.5	<0.5	<1.5
	16-Jun-04	<1.0	<1.0	<1.0	<2.0
	17-Dec-04	<1.0	0.349J	<1.0	<2.0
	03-Jun-05	<1.0	0.349J	<1.0	<2.0

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgH28_MW09—Cont.	13-Dec-05	<1.0	1.37	3.13	3.66
	22-Aug-06	<1.0	<1.0	<1.0	<2.0
	17-Jan-07	<1.0	0.447J	<1.0	<2.0
BldgH28_MW10	29-Aug-91	16	20	<5.0	<5.0
	12-May-92	ND	ND	ND	NA
BldgH28_MW11	17-Dec-04	<1.0	1.54	35.6	12.2
	03-Jun-05	<1.0	1.66	29	118.1
	13-Dec-05	<1.0	2.0	35.4	165.7
	22-Aug-06	<2.0	1.41	29.9	141.4
	17-Jan-07	<1.0	2.62	33	178.6
BldgH30_HP01	13-Apr-95	<0.5	1.5	1.9	10.4
BldgH30_HP02	13-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgH30_HP03	13-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgH30_HP04	13-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgH30_HP05	13-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgH30_MW01	10-Apr-95	<0.5	<0.5	<0.5	6.8
	20-Jul-01	<0.5	<0.5	<0.5	<1.5
BldgH30_MW02	10-Apr-95	<0.5	<0.5	<0.5	<1.5
	20-Aug-99	<1.0	<1.0	<1.0	<2.0
	16-Oct-00	<0.5	<0.5	<0.5	<1.5
	12-Apr-01	<0.5	<0.5	<0.5	<1.5
BldgH30_MW03	10-Apr-95	<25	<0.5	48.9	166
BldgH30_MW05	04-May-95	<0.05	<0.08	<0.06	<0.17
BldgH30_MW06	04-May-95	<0.05	<0.08	<0.06	<0.17
BldgH30_MW07	04-May-95	<0.05	<0.08	<0.06	<0.17
	20-Aug-99	<1.0	<1.0	<1.0	<2.0
BldgH30_MW08	04-May-95	<0.05	<0.08	<0.06	<0.17
	20-Aug-99	<1.0	<1.0	<1.0	<2.0
BldgH30_MW09	04-May-95	<0.05	<0.08	<0.06	<0.17
	18-Oct-00	<0.5	<0.5	<0.5	<1.5
	18-Oct-00	<0.5	3.0	<0.5	<1.5
	12-Apr-01	<0.5	<0.5	<0.5	<1.5
BldgH30_MW10	04-May-95	<0.05	<0.08	<0.06	<0.17
BldgH30_MW11	04-May-95	<0.05	<0.08	<0.06	<0.17
BldgH30_MW12	20-Aug-99	<1.0	<1.0	<1.0	<2.0
	16-Oct-00	<0.5	3.0	<0.5	<1.5
	12-Apr-01	<0.5	<0.5	1.0	<1.5
BldgH30_PW04	04-May-95	1.7	<0.08	<0.06	<0.17
	04-May-95	1.3	<0.08	<0.06	<0.17
BldgHP100_PZ01	30-Sep-98	<1.0	<1.0	<1.0	<2.0
BldgHP100_PZ02	30-Sep-98	<1.0	<1.0	<1.0	<2.0
BldgHP100_PZ03	30-Sep-98	<1.0	<1.0	<1.0	<2.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgHP100_PZ04	30-Sep-98	<1.0	<1.0	<1.0	<2.0
BldgHP100_PZ05	30-Sep-98	<1.0	<1.0	<1.0	<2.0
BldgHP100_PZ06	30-Sep-98	<1.0	<1.0	<1.0	<2.0
BldgHP100_PZ07	30-Sep-98	<1.0	<1.0	<1.0	<2.0
BldgHP100_PZ08	30-Sep-98	<1.0	<1.0	<1.0	<2.0
BldgHP250_MW01	8/25/1997	<0.50	<0.50	<0.50	<1.5
BldgLCH4015_HP01	07-Jun-95	<0.5	<0.5	<0.5	<1.5
BldgLCH4015_HP02	07-Jun-95	<0.5	1.5	<0.5	<1.5
BldgLCH4015_HP03	07-Jun-95	<2.5	<2.5	6.1	<7.5
BldgLCH4015_HP04	06-Jun-95	<5.0	<5.0	30.6	144
BldgLCH4015_HP05	06-Jun-95	<0.5	<0.5	<0.5	<1.5
BldgLCH4015_HP06	07-Jun-95	<0.5	0.6	<0.5	<1.5
BldgLCH4015_HP07	07-Jun-95	<0.5	<0.5	<0.5	<1.5
BldgLCH4015_HP08	08-Jun-95	<0.5	2.0	<0.5	<1.5
BldgLCH4015_HP09	08-Jun-95	8.9	<2.5	109	19.3
BldgLCH4015_HP10	06-Jun-95	<250	<250	843	3,680
BldgLCH4015_HP11	07-Jun-95	10,600	534	2,960	9,370
BldgLCH4015_HP12	09-Jun-95	<100	<100	<100	<300
BldgLCH4015_HP13	09-Jun-95	<0.5	<0.5	<0.5	<1.5
BldgLCH4015_HP14	09-Jun-95	<0.5	<0.5	<0.5	<1.5
BldgLCH4015_HP15	09-Jun-95	<100	<100	<100	<300
BldgLCH4015_MW01	03-Nov-94	9,250	17,300	2,770	15,200
	06-Jun-95	8,850	256	1,910	1,690
	04-Aug-98	3,400	3,800	2,000	6,600
	28-Dec-98	2,200	3,600	1,400	6,800
	26-Jan-99	1,600	3,100	1,700	7,000
	23-Feb-99	1,900	4,500	2,100	8,100
	26-May-99	1,200	1,600	1,700	5,360
	19-Aug-99	1,400	680	1,600	3,500
	23-Nov-99	590	440	970	2,040
	22-Feb-00	410	320	650	1,540
	24-May-00	700	210	1,100	2,290
	22-Aug-00	690	140	1,000	1,730
	27-Nov-00	590	180	1,100	2,200
	20-Feb-01	510	340	920	1,900
	23-May-01	340	190	770	1,700
	14-Aug-01	440	69	870	1,360
	19-Nov-01	360	86	990	1,570
	21-Feb-02	170	80	480	1,080
	22-May-02	210	41	740	1,010
	13-Aug-02	230	27	620	590
	14-Nov-02	130	21	330	493

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW01— Cont.	23-Sep-03	138	14.8	368	226
	23-Sep-03	141	17.5	341	269
	19-Nov-03	139	8.0	377	147
	20-Feb-04	131	27.5	439	514
	12-May-04	28.4	13	319	704
	11-Aug-04	53.3	8.6	225	314
	22-Nov-04	29.1	4.6J	189	390
	10-May-05	30.1	14.8	270	659
	14-Nov-05	48.1	4.9	143	268
	19-Jan-06	45.5	10.1	179	370.5
	12-Oct-06	12	5.21	118	191.2
	06-Feb-07	6.8	1.57	23.7	26.26
	24-Jul-07	9.74	<8.0	145	<16
	23-Jan-08	7.75	1.3J	31.7	39.93
BldgLCH4015_MW02	03-Nov-94	10,100	<500	990	1,940
	07-Jun-95	5,310	179	2,070	9,960
	04-Aug-98	4,500	ND	270	1,300
	28-Dec-98	2,600	ND	ND	ND
	26-Jan-99	1,900	ND	170	800
	24-Feb-99	5,400	ND	360	580
	26-May-99	7,200	ND	440	730
	19-Aug-99	6,600	ND	290	720
	23-Nov-99	130	ND	14	ND
	22-Feb-00	55	ND	ND	ND
	24-May-00	36	ND	ND	ND
	23-Aug-00	12	ND	3.0	ND
	27-Nov-00	5.0	ND	2.0	ND
	20-Feb-01	26	ND	ND	ND
	23-May-01	85	ND	7.0	ND
	14-Aug-01	110	ND	79	540
	19-Nov-01	550	19	150	1,100
	21-Feb-02	820	92	140	140
	22-May-02	400	ND	140	440
	13-Aug-02	250	17	110	510
	14-Nov-02	87	11	72	380
	23-Sep-03	60.1	7.2	62.9	612
	18-Nov-03	22.4	1.9	31.9	62.5
	20-Feb-04	19.1	1.3	14.5	76.9
12-May-04	30.9	1.8	14.6	85.3	
11-Aug-04	0.9J	<1.0	2.4	13.3	
22-Nov-04	84.6	6.7	64	220	

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW02— Cont.	10-May-05	13.1	<1.0	13.5	32.6
	14-Nov-05	1.5	<1.0	2.0	5.6
	19-Jan-06	3.63	<1.0	6.1	<2.0
	11-Oct-06	5.7	1.94	6.34	82.18
	07-Feb-07	<1.0	<1.0	<1.0	<2.0
	24-Jul-07	3.16	<1.0	2.76	11.5
	24-Jan-08	8.26	1.39	12.3	20.5
BldgLCH4015_MW03	03-Nov-94	4.83	4.1	6.22	24.9
	08-Jun-95	2.86	0.873	5.83	12.7
	04-Aug-98	2,400	3,900	ND	ND
	28-Dec-98	2,200	980	290	1,300
	26-Jan-99	1,100	360	ND	200
	24-Feb-99	1,800	570	140	530
	26-May-99	2,400	810	530	1,600
	19-Aug-99	1,300	260	700	2,200
	23-Nov-99	810	100	580	720
	22-Feb-00	760	170	290	390
	24-May-00	570	87	430	360
	22-Aug-00	460	590	590	400
	27-Nov-00	390	620	620	220
	20-Feb-01	520	51	440	230
	23-May-01	230	ND	410	160
	14-Aug-01	220	ND	360	130
	19-Nov-01	220	8.0	160	53
	21-Feb-02	210	ND	84	33
	22-May-02	160	ND	56	16
	13-Aug-02	77	ND	23	ND
	14-Nov-02	7.0	ND	7.0	ND
	23-Sep-03	1.0	<1.0	0.8J	<3.0
	18-Nov-03	1.3	<1.0	1.3	<3.0
	19-Feb-04	10.5	0.68J	3.7	3.6
	11-May-04	1.6	<1.0	1.7	<3.0
	11-Aug-04	<1.0	0.52J	<1.0	<3.0
	22-Nov-04	0.56J	<1.0	<1.0	<3.0
	10-May-05	<1.0	<1.0	<1.0	<3.0
	15-Nov-05	<1.0	0.89J	<1.0	<3.0
19-Jan-06	<1.0	<1.0	<1.0	<2.0	
12-Oct-06	<1.0	0.831J	0.367J	0.924	
07-Feb-07	0.965J	<1.0	<1.0	<2.0	
25-Jul-07	<1.0	<1.0	<1.0	<2.0	
24-Jan-08	<1.0	<1.0	<1.0	<2.0	

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW04	03-Nov-94	95.5	<50	293	499
	08-Jun-95	9.87	1.43	188	190
	04-Aug-98	ND	ND	23	23
	28-Dec-98	ND	ND	11	11
	26-Jan-99	ND	ND	11	12
	23-Feb-99	ND	ND	8.0	9.0
	26-May-99	ND	ND	12	15
	19-Aug-99	ND	ND	14	16
	23-Nov-99	ND	ND	7.0	8.0
	22-Feb-00	ND	ND	7.0	6.0
	22-Aug-00	ND	ND	5.0	4.0
	20-Feb-01	ND	ND	2.0	2.0
	14-Aug-01	ND	ND	7.0	8.0
	21-Feb-02	ND	ND	ND	7.0
	13-Aug-02	ND	ND	1.0	ND
25-Jul-07	<1.0	<1.0	<1.0	<2.0	
BldgLCH4015_MW05	03-Nov-94	30.7	<1.0	<1.0	17.6
	08-Jun-95	0.267	0.4	0.216	4.1
	04-Aug-98	130	170	24	49
	28-Dec-98	ND	ND	ND	ND
	26-Jan-99	2.0	ND	ND	ND
	23-Feb-99	ND	ND	ND	ND
	26-May-99	ND	ND	ND	ND
	19-Aug-99	ND	ND	ND	ND
	23-Nov-99	16	ND	140	ND
	23-Feb-00	2.0	ND	27	ND
	24-May-00	ND	ND	ND	ND
	22-Aug-00	ND	ND	ND	ND
	27-Nov-00	18	ND	25	223
	20-Feb-01	7.0	ND	2.0	4.0
	23-May-01	ND	ND	ND	ND
	14-Aug-01	ND	ND	ND	ND
	19-Nov-01	ND	ND	ND	ND
	21-Feb-02	2.0	ND	2.0	ND
	22-May-02	20	66	20	24
	13-Aug-02	ND	ND	ND	ND
	14-Nov-02	ND	ND	ND	ND
	18-Nov-03	<1.0	<1.0	<1.0	<3.0
	19-Feb-04	<1.0	<1.0	<1.0	<3.0
11-May-04	<1.0	<1.0	<1.0	<3.0	
11-Aug-04	<1.0	<1.0	<1.0	<3.0	
06-Mar-07	<1.0	0.321J	<1.0	<2.0	
25-Jul-07	<1.0	<1.0	<1.0	<2.0	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW06	06-Jul-95	0.246	<0.08	1.43	0.339
	03-Aug-98	ND	ND	ND	ND
	28-Dec-98	ND	ND	ND	ND
	26-Jan-99	ND	ND	ND	ND
	23-Feb-99	ND	ND	ND	ND
	26-May-99	ND	ND	ND	ND
	19-Aug-99	ND	7.0	1.0	8.0
	23-Nov-99	ND	ND	ND	ND
	22-Feb-00	ND	ND	ND	ND
	23-Aug-00	ND	ND	ND	ND
	20-Feb-01	ND	ND	ND	ND
	14-Aug-01	ND	ND	ND	ND
	21-Feb-02	ND	ND	ND	ND
	14-Aug-02	ND	ND	ND	ND
	19-Nov-03	<1.0	<1.0	<1.0	<3.0
	11-May-04	<1.0	<1.0	<1.0	<3.0
	25-Jul-07	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW07	06-Jul-95	0.21	<0.08	<0.06	<0.17
	03-Aug-98	ND	ND	ND	ND
	28-Dec-98	ND	ND	ND	ND
	26-Jan-99	ND	ND	ND	ND
	23-Feb-99	ND	ND	ND	ND
	26-May-99	ND	3.0	ND	3.0
	19-Aug-99	ND	ND	ND	ND
	23-Nov-99	ND	ND	ND	ND
	22-Feb-00	2.0	1.0	1.0	3.0
	22-Aug-00	ND	ND	ND	ND
	20-Feb-01	ND	ND	ND	ND
	14-Aug-01	ND	ND	ND	ND
	21-Feb-02	ND	ND	ND	ND
	14-Aug-02	ND	ND	ND	ND
	18-Nov-03	<1.0	<1.0	<1.0	<3.0
	11-May-04	<1.0	0.52J	<1.0	<3.0
	24-Jul-07	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW08	06-Jul-95	0.159	0.217	0.462	<0.17
	04-Aug-98	ND	ND	ND	ND
	28-Dec-98	ND	ND	ND	ND
	26-Jan-99	ND	ND	ND	ND
	24-Feb-99	ND	ND	ND	ND
	26-May-99	ND	ND	ND	ND
	19-Aug-99	ND	ND	ND	ND
	23-Nov-99	ND	ND	ND	ND
	22-Feb-00	ND	ND	ND	ND
	22-Aug-00	ND	ND	ND	ND

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW08— Cont.	20-Feb-01	ND	ND	ND	ND
	14-Aug-01	ND	ND	ND	ND
	21-Feb-02	ND	ND	ND	ND
	26-Feb-02	ND	ND	ND	ND
	13-Aug-02	ND	ND	ND	ND
	18-Nov-03	<1.0	<1.0	<1.0	<3.0
	12-May-04	<1.0	0.52J	<1.0	<3.0
	13-Jun-06	0.903J	4.49	0.835J	5.72
	06-Mar-07	<1.0	<1.0	<1.0	<2.0
	25-Jul-07	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW09	06-Jul-95	0.196	0.179	<0.06	0.27
	04-Aug-98	230	85	ND	ND
	28-Dec-98	650	ND	ND	ND
	26-Jan-99	500	ND	30	44
	24-Feb-99	540	ND	ND	ND
	26-May-99	270	ND	ND	ND
	19-Aug-99	510	ND	43	100
	23-Nov-99	210	ND	25	36
	22-Feb-00	98	ND	19	ND
	24-May-00	110	ND	14	ND
	22-Aug-00	71	ND	33	44
	27-Nov-00	18	ND	44	28
	20-Feb-01	18	ND	ND	ND
	23-May-01	73	ND	ND	ND
	14-Aug-01	14	ND	ND	ND
	19-Nov-01	16	ND	ND	ND
	21-Feb-02	3.0	ND	ND	ND
	22-May-02	ND	ND	ND	ND
	13-Aug-02	ND	ND	ND	ND
	14-Nov-02	ND	ND	ND	ND
	23-Sep-03	<1.0	0.66J	0.63J	<3.0
	18-Nov-03	<1.0	<1.0	<1.0	<3.0
	20-Feb-04	<1.0	<1.0	<1.0	<3.0
11-May-04	<1.0	<1.0	3.5	<3.0	
11-Aug-04	<1.0	0.5J	<1.0	<3.0	
25-Jul-07	<1.0	<1.0	<1.0	<2.0	
BldgLCH4015_MW10	06-Jul-95	<0.05	<0.08	<0.06	<0.17
	04-Aug-98	ND	ND	ND	ND
	28-Dec-98	ND	ND	ND	ND
	26-Jan-99	ND	ND	ND	ND
	24-Feb-99	ND	ND	ND	ND

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW10— Cont.	26-May-99	ND	ND	ND	ND
	19-Aug-99	ND	ND	ND	ND
	23-Nov-99	ND	ND	ND	ND
	23-Feb-00	ND	ND	ND	ND
	22-Aug-00	ND	ND	ND	ND
	20-Feb-01	ND	ND	ND	ND
	14-Aug-01	ND	ND	ND	ND
	21-Feb-02	ND	ND	ND	ND
	13-Aug-02	ND	ND	ND	ND
	18-Nov-03	<1.0	<1.0	<1.0	<3.0
	11-May-04	<1.0	<1.0	<1.0	<3.0
25-Jul-07	<1.0	<1.0	<1.0	<2.0	
BldgLCH4015_MW11	06-Jul-95	20.5	<0.8	114	173
	03-Aug-98	8.0	ND	77	12
	28-Dec-98	8.0	ND	68	16
	26-Jan-99	11	ND	65	21
	23-Feb-99	8.0	ND	42	13
	26-May-99	7.0	ND	53	9.0
	19-Aug-99	3.0	ND	55	ND
	23-Nov-99	ND	ND	63	ND
	22-Feb-00	11	ND	62	ND
	24-May-00	2.0	ND	49	5.0
	23-Aug-00	ND	ND	68	15
	27-Nov-00	5.0	ND	48	ND
	20-Feb-01	5.0	ND	50	ND
	23-May-01	5.0	2.0	51	10
	14-Aug-01	7.0	3.0	58	ND
	19-Nov-01	5.0	ND	51	5.0
	21-Feb-02	3.0	1.0	28	ND
	22-May-02	ND	ND	37	4.0
	14-Aug-02	ND	ND	44	ND
	14-Nov-02	ND	ND	25	ND
	23-Sep-03	<1.0	<1.0	3.6	<3.0
	19-Nov-03	<1.0	<1.0	1.7	<3.0
	11-Dec-03	<1.0	<1.0	2.5	<3.0
	19-Feb-04	<1.0	<1.0	3.9	<3.0
	11-May-04	<1.0	<1.0	<1.0	<3.0
11-Aug-04	<1.0	0.63J	5.4	1.8	
13-Jun-06	1.14	4.23	7.86	7.76	
06-Mar-07	<1.0	0.857J	7.4	<2.0	
25-Jul-07	<1.0	<1.0	5.04	<2.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW12	06-Jul-95	0.263	0.256	<0.06	<0.17
	03-Aug-98	ND	ND	ND	ND
	28-Dec-98	ND	ND	ND	ND
	26-Jan-99	ND	ND	ND	ND
	23-Feb-99	ND	ND	ND	ND
	26-May-99	ND	ND	ND	ND
	19-Aug-99	ND	ND	ND	ND
	23-Nov-99	ND	ND	ND	ND
	22-Feb-00	ND	ND	ND	ND
	23-Aug-00	ND	ND	ND	ND
	20-Feb-01	ND	ND	ND	ND
	14-Aug-01	ND	ND	ND	ND
	21-Feb-02	ND	ND	ND	ND
	14-Aug-02	ND	ND	ND	ND
	19-Nov-03	<1.0	<1.0	<1.0	<3.0
11-May-04	<1.0	<1.0	<1.0	<3.0	
23-Jul-07	<1.0	<1.0	<1.0	<2.0	
BldgLCH4015_MW13	06-Jul-95	0.249	0.482	<0.06	0.856
	03-Aug-98	ND	ND	ND	ND
	23-Nov-04	<1.0	<1.0	<1.0	<3.0
	11-May-05	<1.0	<1.0	<1.0	<3.0
	15-Nov-05	<1.0	0.54J	<1.0	<3.0
	19-Jan-06	<1.0	<1.0	<1.0	<2.0
	12-Oct-06	<1.0	0.785J	0.202J	<2.0
	06-Feb-07	<1.0	<1.0	<1.0	<2.0
	23-Jul-07	<1.0	<1.0	<1.0	<2.0
	24-Jan-08	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW14	06-Jul-95	<0.05	<0.08	<0.06	<0.17
	19-Nov-03	<1.0	<1.0	<1.0	<3.0
	11-May-04	<1.0	<1.0	<1.0	<3.0
	06-Mar-07	<1.0	<1.0	<1.0	<2.0
	23-Jul-07	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW15	06-Jul-95	0.148	<0.08	<0.06	<0.17
	18-Nov-03	<1.0	<1.0	<1.0	<3.0
	11-May-04	<1.0	0.52J	<1.0	<3.0
	24-Jul-07	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW16	06-Jul-95	0.251	0.196	<0.06	<0.17
	18-Nov-03	<1.0	<1.0	<1.0	<3.0
	12-May-04	<1.0	0.52J	<1.0	<3.0
	24-Jul-07	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW17	06-Jul-95	<0.05	<0.08	<0.06	<0.17

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW18	06-Jul-95	0.296	0.213	6.73	0.979
	19-Nov-03	<1.0	<1.0	0.86J	<3.0
	11-May-04	<1.0	<1.0	<1.0	<3.0
	23-Nov-04	<1.0	0.51J	<1.0	<3.0
	11-May-05	<1.0	<1.0	<1.0	<3.0
	15-Nov-05	<1.0	0.59J	<1.0	<3.0
	06-Feb-07	<1.0	<1.0	<1.0	<2.0
	24-Jul-07	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW19	11-Jul-95	<0.05	0.893	0.528	1.87
	19-Nov-03	<1.0	<1.0	<1.0	<3.0
	11-May-04	<1.0	<1.0	<1.0	<3.0
	23-Nov-04	<1.0	<1.0	<1.0	<3.0
	11-May-05	<1.0	<1.0	<1.0	<3.0
	15-Nov-05	<1.0	0.63J	<1.0	<3.0
	19-Jan-06	<1.0	<1.0	<1.0	<2.0
	11-Oct-06	0.329J	3.76	0.832J	ND
	06-Feb-07	<1.0	<1.0	<1.0	<2.0
	24-Jul-07	<1.0	<1.0	<1.0	<2.0
	24-Jan-08	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW20	07-Jul-95	0.395	0.989	0.429	1.84
	22-Nov-04	<1.0	<1.0	<1.0	<3.0
	10-May-05	<1.0	<1.0	<1.0	<3.0
	14-Nov-05	<1.0	<1.0	<1.0	<3.0
	19-Jan-06	<1.0	<1.0	<1.0	<2.0
	11-Oct-06	0.383J	2.99	0.731J	4.39
	07-Feb-07	<1.0	<1.0	<1.0	<2.0
	24-Jul-07	<1.0	<1.0	<1.0	<2.0
	24-Jan-08	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW21 (new)	23-Nov-04	20.8	2.0	5.2	2.7J
	11-May-05	17.5	1.1	4.2	1.1J
	15-Nov-05	10.9	0.66J	1.9	1.3J
	19-Jan-06	20.2	<1.0	3.05	0.632J
	11-Oct-06	13.2	3.86	2.59	4.8
	06-Feb-07	21.1	0.465J	1.8	<2.0
	24-Jul-07	21	<1.0	1.31	<2.0
	24-Jan-08	26	<2.0	2.05	<4.0
BldgLCH4015_MW22	22-Nov-04	<1.0	<1.0	<1.0	<3.0
	10-May-05	<1.0	0.96J	<1.0	<3.0
	15-Nov-05	<1.0	0.89J	<1.0	<3.0
	19-Jan-06	<1.0	<1.0	<1.0	<2.0
	11-Oct-06	<1.0	3.09	0.705J	2.57

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4015_MW22— Cont.	07-Feb-07	<1.0	<1.0	<1.0	<2.0
	24-Jul-07	<1.0	<1.0	<1.0	<2.0
	24-Jan-08	<1.0	<1.0	<1.0	<2.0
BldgLCH4015_MW23	23-Nov-04	73.9	<1.0	1.3	1.3J
	11-May-05	47.1	<1.0	0.79J	<3.0
	14-Nov-05	4.2	0.71	0.66J	1.3J
	19-Jan-06	25.9	<1.0	0.4J	<2.0
	11-Oct-06	116	5.17	3.51J	5.74J
	06-Feb-07	122	<5.0	<5.0	<10
	24-Jul-07	46.3	<4.0	<1.0	<8.0
	23-Jan-08	8.42	<1.0	<1.0	<2.0
BldgLCH4015_MW24	07-Mar-05	4.38	0.418J	0.785J	2.088
	10-May-05	2.3	<1.0	<1.0	<3.0
	15-Nov-05	1.8	0.57J	<1.0	<3.0
	11-Oct-06	1.34	2.16	0.76J	3.21
	07-Feb-07	<1.0	<1.0	<1.0	<2.0
	25-Jul-07	<1.0	<1.0	<1.0	<2.0
	24-Jan-08	<1.0	<1.0	<1.0	<2.0
	BldgLCH4022_HP01	24-Nov-93	<0.5	<0.5	<0.5
BldgLCH4022_HP02	24-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_HP03	19-Nov-93	<0.5	0.8	<0.5	<0.5
BldgLCH4022_HP04	19-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_HP05	24-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_HP06	19-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_HP07	19-Nov-93	1.8	<0.5	<0.5	<0.5
BldgLCH4022_HP08	19-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_HP09	18-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_HP10	24-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_MW01	25-Jun-93	12	0.9	46	87
	14-Jan-94	45	<6.3	55	15
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW02	29-Mar-93	17	<0.5	39	63
	29-Mar-93	17	0.6	38	61
	19-Nov-93	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_MW03	29-Mar-93	110D	<5.0D	160D	29D
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW04	14-Jan-94	<0.5	<0.5	<0.5	<0.5
BldgLCH4022_MW05	14-Jan-94	<0.5	<0.5	<0.5	<0.5
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgLCH4022_MW06	14-Jan-94	<0.5	<0.5	<0.5	<0.5
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW07	14-Jan-94	<0.5	1.0	0.5	3.4
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW08	28-Jan-94	<0.5	<0.5	<0.5	<0.5
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW09	28-Jan-94	<0.5	<0.5	<0.5	1.4
	28-Jan-94	<0.5	<0.5	<0.5	1.3
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW10	28-Jan-94	<0.5	0.6	<0.5	3.2
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW11	28-Jan-94	<0.5	<0.5	<0.5	1.8
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW12	28-Jan-94	<0.5	5.2	2.5	19
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW13	28-Jan-94	<0.5	<0.5	<0.5	2.4
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW14	28-Jan-94	<0.5	<0.5	<0.5	<0.5
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW15	28-Jan-94	<0.5	<0.5	<0.5	<0.5
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW16	02-Feb-94	<0.5	<0.5	<0.5	2.4
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW17	28-Jan-94	1.8B	1.0B	4.0B	2.3B
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW18	28-Jan-94	0.8	3.9	1.4	4.4
	19-Nov-98	<1.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0
BldgLCH4022_MW19	28-Jan-94	39B	<0.5	32B	3.2B
	19-Nov-98	2.0	<1.0	<1.0	<2.0
	31-Jul-01	<1.0	<1.0	<1.0	<2.0

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgNH118_MW01	8/26/1997	<0.5	<0.5	<0.5	<1.0
	12-Aug-98	<1.0	<1.0	<1.0	<2.0
BldgPP3311_TW01	26-Jul-02	7.0	<1.0	48D	120D
	26-Jul-02	7.0	<1.0	47D	130D
BldgPP3322_TW01	25-Jul-02	<1.0	2.0	15	21
BldgPP3332_TW01	25-Jul-02	<1.0	<1.0	5.0	24
BldgPP3340_TW01	25-Jul-02	<1.0	<1.0	<1.0	<2.0
	25-Jul-02	<1.0	<1.0	<1.0	<2.0
BldgPP3354_TW01	25-Jul-02	<1.0	2.0	20	51
	25-Jul-02	<1.0	2.0	29	72
BldgPP3363_TW01	24-Jul-02	<1.0	<1.0	7.0	17
BldgPT5_HP01	2/15/1995	<0.50	0.7	<0.50	<1.5
BldgPT5_HP02	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP03	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP04	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP05	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP06	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP07	2/15/1995	0.7	<0.50	<0.50	<1.5
BldgPT5_HP08	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP09	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP10	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP11	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP12	2/15/1995	99.2	285	138	568
BldgPT5_HP13	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP14	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_HP15	2/15/1995	<0.50	<0.50	<0.50	<1.5
BldgPT5_MW01	3/14/1995	160	240	140	660
	8/18/1998	11	29	37	155
	11/18/1998	45	88	84	360
BldgPT5_MW02	3/14/1995	<0.17	<0.20	<0.19	<0.36
BldgPT5_MW03	3/14/1995	<0.17	<0.20	<0.19	<0.36
BldgPT5_MW04	3/14/1995	<0.17	<0.20	<0.19	<0.36
	5/20/1997	<1.0	<1.0	<1.0	<2.0
	8/18/1997	<1.0	<1.0	<1.0	<2.0
	11/15/1997	<1.0	<1.0	<1.0	<2.0
	2/18/1998	<1.0	<1.0	<1.0	<2.0
	5/19/1998	<1.0	<1.0	<1.0	<2.0
BldgPT5_MW05	3/14/1995	<0.17	<0.20	<0.19	<0.36
BldgPT5_MW06	3/14/1995	<0.17	<0.20	<0.19	<0.36
	5/20/1997	<1.0	<1.0	<1.0	<2.0
	8/18/1997	<1.0	<1.0	<1.0	<2.0
	11/15/1997	<1.0	<1.0	<1.0	<2.0
	5/19/1998	<1.0	<1.0	<1.0	<2.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgPT5_MW07	3/14/1995	<0.17	<0.20	<0.19	<0.36
	5/20/1997	<1.0	<1.0	<1.0	<2.0
	8/18/1997	<1.0	<1.0	<1.0	<2.0
	11/15/1997	<1.0	<1.0	<1.0	<2.0
	2/18/1998	<1.0	<1.0	<1.0	<2.0
	5/19/1998	<1.0	<1.0	<1.0	<2.0
	11/18/1998	<1.0	<1.0	<1.0	<2.0
BldgPT5_MW08	3/14/1995	<0.17	<0.20	<0.19	<0.36
	5/20/1997	<1.0	<1.0	<1.0	<2.0
	8/18/1997	<1.0	<1.0	<1.0	<2.0
	11/15/1997	<1.0	<1.0	<1.0	<2.0
	2/18/1998	<1.0	<1.0	<1.0	<2.0
	5/19/1998	<1.0	<1.0	<1.0	<2.0
BldgPT5_MW09	3/14/1995	<0.17	<0.20	<0.19	<0.36
BldgPT5_MW10	3/14/1995	<0.17	<0.20	<0.19	<0.36
BldgPT5_MW11	3/14/1995	<0.17	<0.20	<0.19	<0.36
BldgPT5_MW12	3/14/1995	<0.17	<0.20	<0.19	3.6
	5/20/1997	<1.0	<1.0	<1.0	<2.0
	8/18/1997	<1.0	<1.0	<1.0	<2.0
	11/15/1997	<1.0	<1.0	<1.0	<2.0
	2/18/1998	<1.0	<1.0	<1.0	<2.0
	5/19/1998	<1.0	<1.0	<1.0	<2.0
BldgPT5_MW13	3/14/1995	<0.17	2.0	0.52	3.6
BldgPT5_MW14	3/14/1995	<0.17	3.6	1.2	7.5
	8/18/1998	<1.0	<1.0	<1.0	<2.0
	11/18/1998	<1.0	<1.0	<1.0	<2.0
BldgPT5_MW15	3/14/1995	<0.17	2.1	0.72	4.8
BldgPT5_MW16	3/14/1995	68	87	73	290
	8/19/1998	3.0	6.0	50	32
	11/18/1998	3.0	5.0	32	28
BldgPT5_MW18	8/19/1998	<2.0	<2.0	<2.0	<4.0
		<1.0	2.0	22	22
BldgPT5_RW01	8/19/1998	54	30	65	110
	11/18/1998	44	14	53	49
BldgPT37_MW01	28-Jun-99	<1.0	<1.0	<1.0	2.0
	28-Jun-99	<1.0	<1.0	<1.0	3.0
BldgS688_MW01	28-Jun-99	<1.0	<1.0	<1.0	<2.0
	28-Jun-99	<1.0	<1.0	<1.0	<2.0
BldgS1856_DMW13	15-Aug-00	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW01	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	<1.5

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgS1856_MW02	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	<1.5
	15-Aug-00	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW03	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW04	12-Jun-95	<0.2	<0.2	<0.02	16
	12-Mar-97	<0.5	<0.5	<0.5	<1.5
	15-Aug-00	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW05	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	3.79
	12-Mar-97	<0.5	<0.5	<0.5	3.71
BldgS1856_MW06	12-Jun-95	<0.2	1.4	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	<1.5
	15-Aug-00	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW07	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	<1.5
	01-Apr-97	NA	ND	ND	ND
	29-Jan-98	<0.05	<0.08	<0.06	<0.15
BldgS1856_MW08	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	3.05
	15-Aug-00	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW09	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW10	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	<0.5	<0.5	<0.5	<1.5
	15-Aug-00	<0.5	<0.5	<0.5	<1.5
BldgS1856_MW11	12-Jun-95	<0.2	<0.2	<0.02	<0.23
	12-Mar-97	0.71	<0.5	<0.5	<1.5
BldgS1856_MW12	12-Jun-95	<0.2	<0.2	0.88	11.05
	12-Mar-97	<0.5	<0.5	2.46	1.88
	01-Apr-97	NA	ND	2.46	1.88
	28-Jan-98	<0.05	0.549	1.02	1.614
	15-Aug-00	<0.5	<0.5	<0.5	<1.5
	15-Aug-00	<0.5	<0.5	<0.5	<1.5
BldgS2633_MW01(old)	8/2/1996	4,450	4,100	1,400	5,750
BldgS2633_MW01(new)	2/2/1998	465.5	214.5	260	922.5
	2/23/2005	3,020	2,380	297	2,781
	1/19/2006	2,850	2,380	374	3,560
	1/31/2008	342	7.4	80.8	54
BldgS2633_MW02	8/2/1996	<0.5	<0.5	<0.5	<1.5
	2/2/1998	<5.0	<5.0	<5.0	<5.0
BldgS2633_MW03	8/2/1996	<0.5	<0.5	<0.5	<1.5
	2/2/1998	<5.0	<5.0	<5.0	<5.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
BldgS2633_MW04	2/2/1998	<5.0	<5.0	<5.0	<5.0
BldgS2633_MW05	2/2/1998	<5.0	<5.0	<5.0	<5.0
BldgS2633_MW06DW	2/2/1998	<5.0	<5.0	<5.0	<5.0
BldgSLCH4019_HP01	11-Apr-95	<0.5	<0.5	5.5	1.7
BldgSLCH4019_HP02	10-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP03	10-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP04	11-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP05	10-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP06	11-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP07	11-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP08	11-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP09	11-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP10	11-Apr-95	6,010D	9,230D	2,330D	9,200D
BldgSLCH4019_HP11	11-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP12	11-Apr-95	<0.5	114D	19.6	<1.5
BldgSLCH4019_HP13	13-Apr-95	<0.5	<0.5	<0.5	<1.5
	13-Apr-95	<0.5	<0.5	<0.5	<1.5
BldgSLCH4019_HP14	13-Apr-95	<0.5	3.3	<0.5	<1.5
BldgSLCH4019_HP15	13-Apr-95	<0.5	3.1	<0.5	<1.5
BldgSLCH4019_MW01	19-Oct-93	<1.0	<1.0	<1.0	<1.0
	19-Oct-93	<1.0	<1.0	<1.0	<1.0
	11-Apr-95	82	<0.08	39	4.6
BldgSLCH4019_MW02	19-Oct-93	25.1	222	18.8	134.8
	12-Apr-95	1,100	360	350	650
BldgSLCH4019_MW03	19-Oct-93	30,080D	14,400D	2,750D	11,300D
	12-Apr-95	5,200	11,000	1,600	7,300
BldgSLCH4019_MW04	2-May-95	<0.05	<0.08	<0.06	<0.34
BldgSLCH4019_MW05	2-May-95	<0.05	<0.08	<0.06	<0.34
BldgSLCH4019_MW06	2-May-95	<0.05	<0.08	<0.06	<0.34
BldgSLCH4019_MW07	2-May-95	<0.05	<0.08	<0.06	<0.34
BldgSLCH4019_MW08	2-May-95	<0.05	<0.08	<0.06	<0.34
BldgSLCH4019_MW09	2-May-95	<0.05	<0.08	<0.06	<0.34
BldgSLCH4019_MW10	2-May-95	<0.05	<0.08	<0.06	<0.34
HPFF_DPT22	07-Jul-97	<0.5	<0.5	<0.5	<1.5
HPFF_DPT23	07-Jul-97	<0.5	<0.5	<0.5	<1.5
HPFF_DPT29	20-Aug-97	<0.5	<0.5	<0.5	<1.5
HPFF_HP01	20-Oct-95	<0.5	3.1	2.7	<1.5
HPFF_HP02	20-Oct-95	0.8	6.2	0.6	44.6
HPFF_HP03	23-Oct-95	<0.5	<0.5	2,740	2.8
HPFF_HP04	23-Oct-95	16,600	71,700	17,200	17,200
HPFF_HP05	24-Oct-95	<0.5	<0.5	<0.5	<1.5
HPFF_HP06	24-Oct-95	<0.5	<0.5	<0.5	<1.5
HPFF_HP07	24-Oct-95	<0.5	1.2	<0.5	<1.5

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_HP08	25-Oct-95	<0.5	<0.5	<0.5	<1.5
HPFF_HP09	25-Oct-95	7,530	15,000	1,260	6,980
HPFF_HP10	25-Oct-95	0.6	1.9	<0.5	<1.5
HPFF_HP11	25-Oct-95	746	754	108	508
HPFF_HP12	27-Oct-95	1.5	39.6	5.6	40.7
HPFF_HP13	27-Oct-95	0.9	25.9	3.0	21.8
HPFF_HP14	27-Oct-95	<0.5	9.0	1.1	7.8
HPFF_HP15	31-Oct-95	<0.5	6.1	1.4	9.7
HPFF_HP16	02-Nov-95	0.6	0.7	<0.5	2.3
HPFF_HP17	02-Nov-95	<0.5	2.2	0.6	<1.5
HPFF_HP18	02-Nov-95	<0.5	9.2	1.4	6.4
HPFF_HP19	20-Nov-95	<0.5	<0.5	<0.5	<1.5
HPFF_HP20	20-Nov-95	<0.5	<0.5	<0.5	<1.5
HPFF_MW01	01-Dec-95	<0.5	<0.5	<0.5	<1.5
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	27-Jan-99	<1.0	<1.0	<1.0	<1
	18-Oct-99	5.4	42	13	40
	16-Feb-00	<1.0	<1.0	<1.0	<2.0
	20-Jul-00	2.2	13	3.5	14
	15-Nov-00	<1.0	<1.0	<1.0	<2.0
	01-Feb-01	42	120	16	81
	17-Jul-02	<1.0	<1.0	<1.0	<2.0
	13-Aug-02	<1.0	<1.0	<1.0	<3.0
	21-Feb-03	32.3	4.5	2.4	2.4J
	22-Aug-03	<1.0	<1.0	<1.0	<3.0
	13-Feb-04	<1.0	<1.0	<1.0	<3.0
	27-Aug-04	3.8	0.88J	<1.0	<3.0
	05-Apr-05	<1.0	0.51J	<1.0	<3.0
	20-Aug-05	<1.0	<1.0	<1.0	<3.0
	24-Jan-06	<1.0	<1.0	<1.0	<3.0
04-Oct-06	26.3	6.6	4.8	4.0	
23-Aug-07	<1.0	<1.0	<1.0	<3.0	
23-Aug-07	<1.0	<1.0	<1.0	<3.0	
21-Oct-08	<1.0	<1.0	<1.0	<3.0	
HPFF_MW02	01-Dec-95	<0.5	<0.5	<0.5	<1.5
	04-Jun-97	<0.5	<0.5	<0.5	<1.5
	15-Feb-00	<1.0	<1.0	<1.0	<2.0
	16-Nov-00	<1.0	<1.0	<1.0	<2.0
	18-Jul-02	<1.0	<1.0	<1.0	<2.0
	20-Aug-07	<1.0	<1.0	<1.0	<3.0
	20-Aug-07	<1.0	<1.0	<1.0	<3.0
21-Oct-08	0.72J	1.8	<1.0	2.0J	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW03	30-Nov-95	0.5	0.5	<0.5	<1.5
	05-Jun-97	<0.5	<0.5	<0.5	<1.5
	17-Feb-00	<1.0	<1.0	<1.0	<2.0
	15-Nov-00	<1.0	<1.0	<1.0	<2.0
	18-Jul-02	<1.0	<1.0	<1.0	<2.0
	14-Aug-07	<1.0	<1.0	<1.0	<3.0
	20-Oct-08	<1.0	<1.0	<1.0	<3.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW04	30-Nov-95	<0.5	<0.5	<0.5	<1.5
	05-Jun-97	<0.5	<0.5	<0.5	<1.5
	16-Feb-00	<1.0	<1.0	<1.0	<2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	18-Feb-03	<1.0	<1.0	<1.0	<3.0
	30-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW05	01-Dec-95	6.6	4.8	0.9	<1.5
	05-Jun-97	1.3	<0.5	<0.5	<1.5
	17-Feb-00	2.0	4.0	<1.0	2.0
	14-Nov-00	140D	3.0	6.0D	3.0
	17-Jul-02	3.0	<1.0	<1.0	<2.0
	14-Aug-02	0.7J	<1.0	0.53J	4.6
	21-Feb-03	674	4.6	33.6	9.9
	25-Aug-03	44.2	13.4	5.2	7.4
	13-Feb-04	8.4	<1.0	<1.0	<3.0
	27-Aug-04	4.1	0.92J	<1.0	<3.0
	05-Apr-05	<1.0	<1.0	<1.0	<3.0
	22-Aug-05	<1.0	<1.0	<1.0	<3.0
	24-Jan-06	<1.0	<1.0	<1.0	<3.0
	06-Oct-06	156B	485B	50.4B	217B
	16-Aug-07	<1.0	0.66J	<1.0	<3.0
28-Feb-08	3.9	4.5	2.3	12.4	
27-Oct-08	<1.0	<1.0	<1.0	<3.0	
HPFF_MW06	30-Nov-95	0.7	1.6	<0.5	1.9
	05-Jun-97	5.6	1.3	<0.5	<1.5
	18-Feb-00	<1.0	<1.0	<1.0	<2.0
	18-Jul-02	<1.0	<1.0	<1.0	<2.0
	14-Aug-07	0.76J	<1.0	<1.0	<3.0
	28-Feb-08	14.1	64.9	16.8	36.1
	20-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW07	01-Dec-95	320	32	150	128
	05-Jun-97	41.5	2.6	44.9	20.5
	27-Jan-99	79	10	100	36
	18-Oct-99	63	41	91	41

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW07—Cont.	22-Feb-00	13D	<2.0D	38D	<4.0D
	20-Jul-00	23	2.7	58	4.4
	15-Nov-00	6.0	1.0	33	3.0
	01-Feb-01	13	26	28	28
	22-Jul-01	4.2	<0.12	27	<0.22
	09-Feb-02	24.9	36.4	15.5	15
	12-Aug-02	1.6	<1.0	7.4	<3.0
	21-Feb-03	9.5	1.8	5.4	1.2
	22-Aug-03	0.79J	<1.0	1.1	<3.0
	13-Feb-04	<1.0	<1.0	<1.0	<3.0
	27-Aug-04	1.5	<1.0	0.9J	<3.0
	05-Apr-05	<1.0	<1.0	0.56J	<3.0
	20-Aug-05	<1.0	<1.0	<1.0	<3.0
	24-Jan-06	<1.0	<1.0	<1.0	<3.0
	04-Oct-06	4.7	1.8	2.1	1.2J
	23-Aug-07	2.0	<1.0	<1.0	<3.0
	26-Feb-08	11.3	19.3	2.6	7.7
21-Oct-08	<1.0	0.38J	<1.0	<3.0	
HPFF_MW08	30-Nov-95	812.5D	367.5D	117.5D	367.5D
	05-Jun-97	2,500D	262D	178D	336D
	28-Jan-99	1,300	170	<50	160
	18-Oct-99	8,000	1,900	730	1,800
	22-Feb-00	11,000	1,700	<1,000	<2,000
	24-Jul-00	7,100	720	480	980
	15-Nov-00	8,500	1,200	600	1,520
	31-Jan-01	7,700	1,100	540	1,100
	22-Jul-01	10,000	1,900	590	1,700
	09-Feb-02	12,300	725	714	882
	13-Aug-02	14,600	1,190	903	2,020
	21-Feb-03	10,900	2,150	878	2,610
	25-Aug-03	7,420	1,690	740	2,130
	20-Feb-04	10,200	1,230	609	1,530
	31-Aug-04	11,500	1,540	627	2,130
	13-Apr-05	10,600	1,680	859	2,750
	31-Aug-05	7,710	145	349	801
	24-Jan-06	7,480	327	331	617
	06-Oct-06	4,940B	765B	303B	695B
	15-Aug-07	7,730	324	323	979
28-Feb-08	2,760	134	163	455	
20-Oct-08	7,270	1,650	485	2,020	
17-Mar-09	6,240	1,820	542	1,990	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW09	01-Dec-95	8,170D	567.5D	185D	185D
	05-Jun-97	10,500D	376D	432D	244D
	18-Feb-00	18,000D	2,300D	1,100D	<2,000D
	14-Nov-00	17,000D	2,300D	1,300D	1,170
	14-Nov-00	17,000D	2,400D	1,300D	1,200
	17-Jul-02	8,100D	<200D	400D	<400D
	14-Aug-02	10,800	<250	621	1,160
	21-Feb-03	22,600	62.4	363	137
	22-Aug-03	4,090	<5.0	96.4	9.2
	13-Feb-04	727	<10	23.2	<30
	27-Aug-04	0.88J	<1.0	<1.0	<3.0
	05-Apr-05	0.76J	1.2	0.57J	3.5
	22-Aug-05	<5.0	<5.0	<5.0	<15
	24-Jan-06	<1.0	<1.0	<1.0	<3.0
	06-Oct-06	323B	849B	101B	416B
	16-Aug-07	<1.0	<1.0	<1.0	<3.0
	16-Aug-07	<1.0	0.88J	<1.0	<3.0
27-Feb-08	15.6	<1.0	1.0	<3.0	
27-Feb-08	15.9	<1.0	1.1	<3.0	
27-Oct-08	<1.0	<1.0	<1.0	<3.0	
HPFF_MW10	21-Aug-97	168D	11	5.7	5.8
	18-Feb-00	1,400D	<100D	<100D	<200D
	17-Jul-02	580D	<40D	<40D	<80D
	27-Aug-05	<1.0	<1.0	<1.0	1.1J
	16-Aug-07	0.73J	<1.0	<1.0	<3.0
	28-Feb-08	<1.0	<1.0	<1.0	<3.0
	20-Oct-08	0.56J	0.61J	<1.0	<3.0
HPFF_MW11	21-Aug-97	25.9	<0.5	1.6	<1.5
	18-Feb-00	130D	73D	13D	35D
	16-Nov-00	59D	<1.0	1.0	<2.0
	17-Jul-02	370D	<10D	<10D	<20
	13-Aug-02	809	84.5	52.1	110
	21-Feb-03	489B	580B	63.6	187
	25-Aug-03	348	<5.0	<5.0	15
	20-Feb-04	114	<2.0	<2.0	<3.0
	31-Aug-04	89.6	0.56J	2.6	<3.0
	13-Apr-05	<1.0	0.68J	0.64J	<3.0
	27-Aug-05	1.3	<1.0	<1.0	<3.0
	24-Jan-06	96.7	471	33.5	133
	01-Dec-06	41.2	<1.0	<1.0	<3.0
15-Aug-07	<1.0	<1.0	<1.0	<3.0	
20-Oct-08	<1.0	0.47J	<1.0	<3.0	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW12	21-Aug-97	51.8	1.6	<0.5	<1.5
	23-Feb-00	1,500D	<50D	<50D	<100D
	23-Feb-00	1,500D	<50D	<50D	<100D
	15-Nov-00	1,700D	57	5.0	12
	15-Nov-00	1,600D	110	19	81
	17-Jul-02	<100D	240D	<100D	<200
	20-Aug-07	47	0.53J	1.1	<3.0
	27-Feb-08	63.6	2.3	0.89J	0.92J
	21-Oct-08	56.8J	3.5J	<1.0	<3.0
	17-Mar-09	2,750	35.1	8.4	8.1
	17-Mar-09	3,010	36.7	<50	<150
HPFF_MW13	21-Aug-97	14.7	0.8	<0.5	<1.5
	22-Feb-00	150	<10	<10	<20
	13-Nov-00	180D	<1.0	<1.0	<2.0
	18-Jul-02	160D	<10	<10	<20
	18-Jul-02	160D	<10	<10	<20
	24-Aug-07	<1.0	<1.0	<1.0	<3.0
	23-Oct-08	99.9	1.1	96.4	10.5
HPFF_MW14	17-Feb-00	1,400D	7,500D	1,300D	9,000D
	15-Nov-00	1,400D	5,000D	960D	4,900D
	21-Oct-08	38	38.5J	15.3	302
	12-Mar-09	21.9	23.6	69	621
HPFF_MW15	20-Aug-97	23,900D	35,700D	3,000D	13,700D
	16-Aug-07	21,300	32,700	1,100	9,940
	20-Oct-08	22,700	29,300	1,960	12,800
HPFF_MW16	20-Aug-97	<0.5	2.9	<0.5	<1.5
	16-Feb-00	19	<1.0	<1.0	<2.0
	15-Nov-00	580D	21	44D	25
	27-Oct-08	77.8	<1.0	<1.0	<3.0
	11-Mar-09	21.7	<1.0	<1.0	<3.0
HPFF_MW17	20-Aug-97	<0.5	<0.5	<0.5	<1.5
	16-Feb-00	880D	730D	120D	480D
	16-Nov-00	540D	360D	99D	350D
	09-Feb-02	12,200	14,000	675	4,100
	27-Oct-08	139	9.3	195	142
	12-Mar-09	18.5	5.7	41.7	65.9
HPFF_MW18	20-Aug-97	<0.5	<0.5	<0.5	<1.5
	09-Feb-02	18,900	36,100	1,830	10,700
	14-Aug-02	18,200	30,300	1,520	8,790
HPFF_MW19	20-Aug-97	17,900D	27,050D	2,270D	9,815D
	28-Jan-99	28,000	32,000	3,100	12,000
	15-Oct-99	12,000	23,000	2,000	7,900
	23-Feb-00	19,000D	29,000D	<2,000D	5,300D

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW19—Cont.	26-Jul-00	17,000	26,000	2,100	9,600
	14-Nov-00	20,000D	30,000D	3,100D	13,300D
	31-Jan-01	19,000	23,000	2,000	9,000
	24-Jul-01	13,000	19,000	1,600	8,100
	09-Feb-02	15,000	20,300	1,780	9,300
	13-Aug-02	16,800	20,600	1,580	7,360
	18-Feb-03	16,300	17,800	1,420	6,630
	27-Aug-03	7,760	10,600	481	12,800
	14-Feb-04	11,300	13,800	847	10,300
	08-Sep-04	10,900	12,300	723	7,660
	18-Apr-05	3,720B	8,230B	858B	4,350B
	24-Jan-06	12,100	9,910	711	3,920
	06-Oct-06	1,110	975	92.8	615
	20-Aug-07	14,100	11,600	964	3,390
	20-Aug-07	13,700	11,200	970	3,350
	27-Feb-08	3,760	2,330	447	2,040
	20-Oct-08	<1.0	0.38J	<1.0	<3.0
	27-Oct-08	8,790	7,990	991	5,740
	13-Mar-09	12,900	4,960	1,070	3,910
HPFF_MW20	20-Aug-97	4,850D	23,500D	1,440D	8,100D
	27-Jan-99	2,600	10,000	1,000	3,300
	15-Oct-99	3,400	8,600	500	2,200
	18-Feb-00	4,700D	12,000D	<1,000D	2,600D
	18-Feb-00	13,000D	34,000D	<2,000D	6,500D
	20-Jul-00	4,400	11,000	770	3,600
	15-Nov-00	5,800D	18,000D	820	5,400
	01-Feb-01	4,700	9,200	430	2,900
	24-Jul-01	2,800	6,400	<400	2,500
	09-Feb-02	3,070	11,400	656	4,570
	14-Aug-02	1,250	2,090	247	813
	18-Feb-03	3,280	7,630	551	2,330
	27-Aug-03	6,020	8,790	112	6,770
	20-Feb-04	6,430	9,790	444	6,140
	08-Sep-04	3,030	2,770	362	2,920
	18-Apr-05	13,200	13,200	954	7,400
	31-Aug-05	1,030	498	537	1,810
	24-Jan-06	4,050	10,600	698	3,180
	04-Oct-06	453	130	265	712
	14-Aug-07	374	77.3	272	599
28-Feb-08	3,210	7,360	1,040	2,260	
20-Oct-08	6,810	25,300	1,610	8,130	
19-Mar-09	4,560	20,800	1,500	6,600	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW21	28-Jan-00	<1.0	<1.0	<1.0	<2.0
	16-Nov-00	6.0	17	1.0	10
	21-Oct-08	18.1	<1.0	<1.0	<3.0
HPFF_MW22	28-Jan-00	11,000D	12,000D	<1,000D	4,100D
	15-Nov-00	11,000D	11,000D	790	5,300
	30-Oct-08	532	175	82.9	150
	12-Mar-09	2,590	1,400	456	936
HPFF_MW23	28-Jan-00	9,200D	22,000D	<2,000D	5,500D
	16-Nov-00	5,200D	17,000D	1,100D	9,200D
	27-Oct-08	8.7	1.0	9.9	14.1
HPFF_MW24	31-Jan-00	3,600D	3,100D	<500D	<1,000D
	16-Nov-00	1,700D	2,200D	110D	3,100D
	03-Nov-08	126	14.9	45.8	71.3
	17-Mar-09	25	3.3	28.1	28.2
HPFF_MW25	28-Jan-00	16,000D	41,000D	3,600D	15,200D
	16-Nov-00	13,000D	36,000D	3,400D	16,700D
HPFF_MW26	31-Jan-00	5.0	20	3.0	15
	16-Nov-00	<1.0	<1.0	<1.0	<2.0
HPFF_MW27	02-Feb-00	11	36	7.0	42
	14-Nov-00	45D	1.0	<1.0	<2.0
HPFF_MW28	28-Jan-00	29,000D	51,000D	3,600D	15,600D
	27-Oct-08	6,520	18,200	721	6,110
	12-Mar-09	9,080	21,300	633	5,400
HPFF_MW29	28-Jan-00	24,000D	55,000D	<4,000D	8,600D
	16-Nov-00	23,000D	47,000D	6,700D	28,300D
	30-Oct-08	15,000	401	2,000	1,330
	12-Mar-09	8,740	1,530	961	1,610
HPFF_MW30	28-Jan-00	510D	55D	<20D	96D
	15-Nov-00	150D	13D	4.0	47
	27-Oct-08	659	29.8	<10	<30
	13-Mar-09	432	24.6	5.0	23.9
HPFF_MW31	31-Jan-00	<1.0	<1.0	<1.0	<2.0
	15-Nov-00	<1.0	<1.0	<1.0	<2.0
	18-Jul-02	<1.0	<1.0	<1.0	<2.0
	15-Aug-07	<1.0	<1.0	<1.0	<3.0
	27-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW32	31-Jan-00	<1.0	<1.0	<1.0	<2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
HPFF_MW33	31-Jan-00	<1.0	2.0	<1.0	<2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
HPFF_MW34	31-Jan-00	5.0D	38D	9.0D	34D
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW35	01-Feb-00	<1.0	2.0	<1.0	<2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW36	01-Feb-00	<1.0	<1.0	<1.0	<2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	21-Aug-07	<1.0	<1.0	<1.0	<3.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW37	01-Feb-00	1.0	7.0	<1.0	5.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW38	01-Feb-00	<1.0	<1.0	<1.0	<2.0
	15-Nov-00	<1.0	<1.0	<1.0	<2.0
	17-Jul-02	<1.0	<1.0	<1.0	<2.0
	15-Aug-07	<1.0	<1.0	<1.0	<3.0
	30-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW39	07-Mar-00	<1.0	<1.0	<1.0	2.0
	13-Nov-00	<1.0	<1.0	<1.0	<2.0
	18-Jul-02	<1.0	<1.0	<1.0	<2.0
	25-Aug-07	5.7	<1.0	<1.0	<3.0
	25-Feb-08	<1.0	<1.0	<1.0	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW40	07-Mar-00	<1.0	<1.0	<1.0	<2.0
	15-Nov-00	<1.0	<1.0	<1.0	<2.0
	28-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW41	07-Mar-00	<1.0	<1.0	<1.0	<2.0
	16-Nov-00	86D	11	1.0	16
	28-Oct-08	1,250	11.4J	549	1,360
	19-Mar-09	564	10.6	530	890
HPFF_MW42	07-Mar-00	<1.0	<1.0	<1.0	<2.0
	15-Nov-00	<1.0	<1.0	<1.0	<2.0
	15-Nov-00	<1.0	<1.0	<1.0	<2.0
	03-Nov-08	104	<1.0	35.5	<3.0
	13-Mar-09	31.6	<1.0	1.9	<3.0
HPFF_MW43	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	25-Aug-07	<1.0	<1.0	<1.0	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW44	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	25-Aug-07	<1.0	<1.0	<1.0	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW45	26-Mar-02	710D	<8.0D	<8.0D	<16D
	24-Oct-08	614	<10	<10	<30
	10-Mar-09	797	<10	<10	<30

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW46	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW47	26-Mar-02	1,300D	<20D	<20D	<40D
	25-Aug-07	993	<20	31.5	<60
	25-Feb-08	747	<10	25.8	<30
	24-Oct-08	1,140	<10	43.1	<30
	10-Mar-09	910	<20	25.2	<60
HPFF_MW48	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	24-Aug-07	<1.0	<1.0	<1.0	<3.0
	24-Aug-07	<1.0	<1.0	<1.0	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW49	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	24-Oct-08	<1.0	0.39J	<1.0	<3.0
HPFF_MW50	26-Mar-02	28	5.0	3.0	3.0
	24-Aug-07	<1.0	<1.0	<1.0	<3.0
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW51	25-Mar-02	<1.0	<1.0	<1.0	<2.0
	25-Aug-07	<1.0	<1.0	<1.0	<3.0
	25-Aug-07	2.1	<1.0	<1.0	<3.0
	27-Feb-08	9,020	47.7J	232	<300
	21-Apr-08	<1.0	<1.0	<1.0	<3.0
	23-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW52	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	22-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW53	26-Mar-02	1.0	<1.0	<1.0	<2.0
	25-Aug-07	<1.0	<1.0	<1.0	<3.0
	22-Oct-08	<1.0	0.83J	<1.0	<3.0
HPFF_MW54	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	25-Aug-07	<1.0	<1.0	<1.0	<3.0
	22-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW55	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	25-Aug-07	<1.0	<1.0	<1.0	<3.0
	22-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW56	26-Mar-02	<1.0	<1.0	<1.0	<2.0
	24-Aug-07	<1.0	<1.0	<1.0	<3.0
	23-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW57	26-Mar-02	3,100D	<40D	<40D	<80D
	29-Oct-08	4.5	<1.0	<1.0	<3.0
HPFF_MW58	26-Mar-02	7.0	<1.0	<1.0	<2.0
	27-Oct-08	<1.0	361J	<1.0	<3.0
HPFF_MW59	27-Mar-02	210D	8.0D	21D	<16D
	23-Aug-07	<1.0	<1.0	<1.0	<3.0
	21-Oct-08	4.8	0.43J	<1.0	<3.0

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW60	27-Mar-02	3,000D	<40D	75D	<80D
	17-Jul-02	2,700D	<80D	<80D	<160D
	20-Aug-07	6,700	<100	57	<300
	20-Aug-07	8,170	<100	<100	<300
	27-Feb-08	8,650	53J	234	64.2J
	21-Oct-08	956	6.1J	26.1	<30
	12-Mar-09	7,660	35.2	254	69.3
HPFF_MW61	27-Mar-02	<1.0	<1.0	<1.0	<2.0
	27-Mar-02	<1.0	<1.0	<1.0	<2.0
	20-Aug-07	<1.0	<1.0	<1.0	<3.0
	21-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW62	26-Mar-02	1.0	<1.0	<1.0	<2.0
	27-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW63	26-Mar-02	6.0	<1.0	<1.0	<2.0
	15-Aug-07	<1.0	<1.0	<1.0	<3.0
	28-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW64	27-Mar-02	46	1.0	9.0	15
	17-Nov-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW65	27-Mar-02	21	<1.0	<1.0	<2.0
	20-Oct-08	<1.0	0.38J	<1.0	<3.0
HPFF_MW66	27-Mar-02	3,000D	52D	96D	80D
	27-Mar-02	3,100D	52D	96D	80D
	17-Aug-07	3,830	<100	324	379
	28-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW67	27-Mar-02	<1.0	<1.0	<1.0	<2.0
	03-Nov-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW68	25-Mar-02	30	33	19	71
	28-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW69	27-Mar-02	1.0	<1.0	<1.0	<2.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW70	27-Mar-02	<1.0	<1.0	<1.0	<2.0
	16-Aug-07	<1.0	<1.0	<1.0	<3.0
	30-Oct-08	<1.0	0.35J	<1.0	<3.0
HPFF_MW71	27-Mar-02	<1.0	<1.0	<1.0	<2.0
	16-Aug-07	<1.0	<1.0	<1.0	<3.0
	30-Oct-08	<1.0	0.47J	<1.0	<3.0
HPFF_MW72	25-Mar-02	15,000D	33,000D	2,600D	7,000D
	18-Jul-02	21,000D	33,000D	2,800D	10,900D
	17-Aug-07	16,800	28,400	1,880	8,290
HPFF_MW73	23-Aug-07	<50	<50	<50	<150
	24-Oct-08	1.1	<1.0	<1.0	<3.0
	24-Oct-08	1.1	0.46J	<1.0	<3.0

Table D4

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPFF_MW74	23-Aug-07	<10	<10	<10	<30
	24-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW76	25-Aug-07	<1.0	<1.0	<1.0	<3.0
	29-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW77	15-Aug-07	<1.0	<1.0	<1.0	<3.0
	28-Oct-08	<1.0	<1.0	<1.0	<3.0
HPFF_MW78	26-Nov-03	10	71	16	80
	20-Oct-08	2.5	26.8	4.4	17.4
HPFF_SP100	26-Nov-03	<1.0	<1.0	<1.0	<2.0
MRFF_MW01	07-Mar-05	<1.0	<1.0	<1.0	<2.0
	07-Mar-05	<1.0	<1.0	<1.0	<2.0
MRFF_MW02	07-Mar-05	<1.0	<1.0	1.05	<2.0
TankS781_MW01 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TankS781_MW02 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TankS781_MW03 (O&G)	12-Dec-91	<10	<10	16	<30
	23-Apr-98	3.4J	<10	3.6J	<10
TankS781_MW04 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
	23-Apr-98	1.5J	<10	6.7J	<10
TankS781_MW05 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TankS781_MW06 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TankS781_MW07 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
	22-Apr-98	<10	<10	<10	<10
TankS781_MW08 (O&G)	12-Dec-91	<10	<10	<10	<30
	22-Apr-98	<10	<10	<10	<10
TankS781_MW09 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TankS781_MW10 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TankS781_MW11 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
	23-Apr-98	<10	<10	<10	<10
TankS781_MW12 (O&G)	12-Dec-91	<1.0	2.0	<1.0	<3.0
	23-Apr-98	<10	<10	<10	<10
TankS781_MW13 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TankS781_MW14 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	<3.0
TanksS889&S891_MW06D	12-Nov-92	ND	3.0	NA	NA
HPGW22-1	7/6/1984	17,000	27,000	3,800	NA
	1/9/1987	12,000	15,000	1,800	9,000
	3/8/1987	10,000	18,000	<7,200	<12,000
	5/27/1987	13,000	24,000	<7,200	<12,000
	1/18/1991	7,900	16,000	1,900J	9,800
	5/21/1993	9,200J	18,000J	3,000J	16,000J
	7/9/1995	17,700	14,800	< 1.0	NA
	10/24/1995	9,590	27,300	2,490	NA
1/17/1996	11,800	28,100	4,230	NA	

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
HPGW22-1—Cont.	4/10/1996	4,900	9,100	800	NA
	7/17/1996	9,500	19,000	2,300	11,000
	10/9/1996	8,500	2,000	18,000	10,000
	10/20/2008	9,680	7,210	627	1,680
HPGW22-2	7/6/1984	<0.30	<0.60	<1.0	NA
	1/9/1987	<1.0	<6.0	<7.2	<12
	3/8/1987	<1.0	<6.0	<7.2	<12
	5/27/1987	<1.0	<6.0	<7.2	<12
	1/24/1991	<5.0	<5.0	<5.0	<5.0
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	2/23/2000	17	4.0	5.0	4.0
	11/13/2000	28	<1.0	<1.0	<2.0
	1/22/2001	50	0.37J	2.4	0.82J
	7/27/2001	3.2	<0.12	<0.11	<0.22
	2/2/2002	22.8	<1.0	<1.0	<3.0
	8/5/2002	28.3	<1.0	<1.0	<3.0
	2/17/2003	41.1	0.65J	<0.50	<1.0
	8/20/2003	17.2	<0.50	<0.50	<1.0
	2/21/2004	6.6	<1.0	<1.0	<1.0
	8/18/2004	6.4	<0.50	<0.50	<1.0
	3/24/2005	78.5	12.6	1.4	6.3
	8/18/2005	4.7	<0.50	<0.50	<1.0
	1/23/2006	95.4	17.3	3.7	10.7
10/2/2006	98.3	18.1	6.3	12.9	
10/21/2008	101	<0.35	<0.43	<1.2	
IRP22_MWA	11/7/2008	284	377	234	1,900
IRP22_MW01	4/20/1988	19,000	36,000	3,200	21,000
	2/17/2000	11,000	39,000	6,300	28,300
	1/31/2001	8,300	25,000	2,700	12,000
	7/22/2001	7,700	25,000	2,600	11,000
	2/9/2002	3,280	14,100	1,460	7,370
	8/13/2002	5,710B	22,200B	4,720	19,700
	2/17/2003	5,380	22,000	2,280	11,600
	8/27/2003	6,670	26,200	3,950	17,200
	2/14/2004	4,970	25,500	3,580	16,500
	8/20/2004	3,180	20,700	2,620	12,300
	4/13/2005	4,480	22,200	3,670	15,300
	8/31/2005	4,140	24,400	3,850	17,200
	1/23/2006	2,860	20,300	2,850	13,100
	10/6/2006	2,790	15,000	1,980	9,330
	8/15/2007	4,530	22,000	2,270	13,300
2/28/2008	3,910	19,500	2,860	13,200	

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP22_MW02	4/20/1988	29,000	110,000	11,000	48,000
	2/18/2000	40,000	120,000	4,300	27,000
	10/20/2008	7,720	27,900	890	11,400
IRP22_MW03	4/20/1988	<1.0	2	<1.0	4.0
	11/30/1995	<0.2	<0.13	<0.2	<0.6
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	2/16/2000	<1.0	<1.0	<1.0	<2.0
	11/13/2000	<1.0	<1.0	<1.0	<2.0
	7/17/2002	<1.0	<1.0	<1.0	<2.0
	10/29/2008	<0.40	<0.35	<0.43	<1.2
IRP22_MW04	4/20/1988	<1.0	<1.0	<1.0	2.0
	11/30/1995	<0.2	<0.13	<0.2	<0.6
	6/4/1997	<0.5	<0.5	<0.5	<1.5
	2/16/2000	<1.0	<1.0	<1.0	<2.0
	11/13/2000	<1.0	<1.0	<1.0	<2.0
	10/29/2008	<0.40	0.43 J	<0.43	<1.2
IRP22_MW05	4/20/1988	<1.0	<1.0	<1.0	2.0
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	2/17/2000	<1.0	<1.0	<1.0	<2.0
	11/16/2000	<1.0	<1.0	<1.0	<2.0
IRP22_MW06	4/20/1988	600	1,700	1,600	7,100
	11/30/1995	30.0	87.5	147.5	466.5
	6/4/1997	9.3	11.3	49.8	111.8
	2/22/2000	9.0	17	31	62
	11/16/2000	28	7	17	33
	7/17/2002	<10	22	29	59
	8/21/2007	38.1	19.7	12.8	34.3
	2/27/2008	92	44.9	24.8	91.8
	10/22/2008	105	11.4	11.5	36.3
IRP22_MW09	4/20/1988	<1.0	<1.0	2.0	8.0
	11/30/1995	1.0	0.9	0.7	1.9
	6/5/1997	<0.5	1.1	<0.5	<1.5
	2/15/2000	<1.0	<1.0	<1.0	<2.0
	11/13/2000	<1.0	<1.0	<1.0	<2.0
	11/13/2000	<1.0	<1.0	<1.0	<2.0
	7/17/2002	<1.0	<1.0	<1.0	<2.0
	8/16/2007	<0.20	<0.27	<0.20	<0.56
	10/28/2008	<0.40	<0.35	<0.43	<1.2
IRP22_MW-10R	6/5/1997	700	4,800	1,400	6,600
	2/17/2000	3,400	13,000	2,900	17,200
	11/16/2000	3,800	8,000	1,200	6,500
	1/31/2001	5,200	5,900	1,100	5,300

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP22_MW-10R—Cont.	2/9/2002	4,410	5,530	1,120	6,040
	8/13/2002	3,780	5,790	946	6,190
	2/17/2003	2,340	2,380	352	2,260
	8/27/2003	2,380	5,070	843	4,830
	2/14/2004	197	650	175	861
	9/8/2004	480	2,210	602	2,590
	4/13/2005	487	288	108	524
	8/27/2005	1,060	929	319	1,510
	1/24/2006	1,770	2,190	631	2,940
	10/4/2006	1,280	1,990	650	2,900
	8/21/2007	1,240	828	307	1,320
	2/28/2008	720	1,420	494	2,520
10/21/2008	928	702	638	2,700	
IRP22_MW11 AKA BOGW11	4/20/1988	1.0	1.0	<1.0	1.0
	11/30/1995	2.1	<0.13	<0.2	1.9
	6/4/1997	<0.5	<0.5	<0.5	<1.5
	2/15/2000	1,500	620	250	1,010
	11/16/2000	550	2,200	450	2,040
	2/1/2001	480	450	140	580
	2/9/2002	64.4	71	11	31
	8/13/2002	26.2	87.1	9.5	28
	2/18/2003	274	1,160	98.3	501
	8/22/2003	957	319	19.5	378
	2/14/2004	6.5	<0.50	1.1	1.2J
	4/13/2005	<0.5	0.68J	0.64J	3.0
	1/25/2006	53.6	32.6	2.2	288
10/9/2006	3.7	0.95J	<0.50	36	
8/16/2007	<0.20	<0.27	<0.20	<0.56	
IRP22_MW12 AKA BOGW12	4/21/1988	19,000	17,000	1,500	8,400
	8/20/2007	758	717	88.6	392
	2/26/2008	1,110	773	85	294
	10/21/2008	386	364	125	372
IRP22_MW15	4/21/1988	4,700	18,000	2,400	13,000
	11/30/1995	18.5	77.0	51.9	229
	6/5/1997	<0.5	8.5	5.5	17.9
	8/17/2007	561	8,510	3,080	16,900
	3/3/2008	422	5,770	2,280	13,300
IRP22_MW17	4/21/1988	11,000	13,000	2,500	9,100
	11/30/1995	5,750	30,150	3,555	12,800
	6/5/1997	5,340	25,250	1,930	8,370
	2/18/2000	32,000	56,000	ND	5,700
	11/15/2000	15,000	13,000	560	3,700

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP22_MW17—Cont.	7/24/2001	12,000	7,500	<110	2,600
	2/9/2002	12,200	14,000	675	4,100
	8/31/2005	7,380	26,200	3,270	12,300
	10/6/2006	4,480	16,400	2,240	8,280
	8/16/2007	7,240	26,600	2,740	7,780
	10/20/2008	7,460	26,500	3,280	11,200
IRP22_MW18	4/21/1988	24,000	42,000	1,900	12,000
	6/5/1997	20,450	35,250	2,850	11,700
	2/17/2000	20,000	89,000	13,000	82,000
	11/16/2000	15,000	34,000	2,200	14,200
	1/31/2001	12,000	24,000	1,300	8,000
	7/24/2001	11,000	22,000	1,100	7,400
	2/9/2002	18,900	36,100	1,830	10,700
	8/13/2002	18,200	30,300	1,520	8,790
	2/18/2003	16,900	30,000	1,370	7,670
	8/27/2003	5,440	15,100	1,930	11,700
	2/14/2004	12,900	27,100	1,800	11,000
	8/20/2004	7,040	17,800	1,950	13,700
	4/13/2005	12,800	27,800	1,870	11,100
	8/31/2005	12,300	28,400	1,680	10,600
	1/23/2006	12,400	26,100	1,220	8,650
10/6/2006	10,300	20,400	1,090	6,840	
8/15/2007	15,400	29,500	1,180	7,940	
IRP22_MW19	4/21/1988	21	150	53	130
	11/30/1995	3.3	<0.13	<0.2	<0.6
	6/5/1997	5.6	1.8	<0.5	<1.5
	2/17/2000	<1.0	<1.0	<1.0	<2.0
	7/18/2002	210	250	18	48
	4/18/2005	3,270	8,230	858	4,350
	8/14/2007	<0.20	<0.27	<0.20	<0.56
	10/20/2008	<0.40	<0.35	<0.43	<1.2
IRP22_MW20 AKA BOMW20	4/21/1988	60	160	79	96
	11/30/1995	4.9	<0.13	<0.2	<0.6
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	2/23/2000	<1.0	<1.0	<1.0	<2.0
	11/20/2000	<1.0	<1.0	<1.0	<2.0
	7/18/2002	4.0	12	1.0	<2.0
	8/24/2007	<0.20	<0.27	<0.20	<0.56
	IRP22_MW21	6/5/1997	<0.5	<0.5	<0.5
2/16/2000	<1.0	<1.0	<1.0	<2.0	
IRP22_RW01	7/10/1992	13,100	14,500	714	5,590
	10/30/2008	327	393	5.7	304

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP22_RW02	7/10/1992	13,800	16,100	965	5,950
IRP22_RW03	7/10/1992	22.6	32.5	3.2	19.7
IRP22_RW04	7/10/1992	2.2	2.2	<1.0	24.8
	10/30/2008	326	68	105.0	92.5
IRP78_GW05	1/12/1987	<1.0	<6.0	<7.2	<12
	3/8/1987	<1.0	<6.0	<7.2	<12
	5/27/1987	<1.0	<6.0	<7.2	<12
	1/10/1991	<5.0	<5.0	<5.0	<5.0
	5/22/1993	ND	ND	ND	ND
	7/9/1995	<1.0	<1.0	<1.0	NA
	10/25/1995	<0.50	1.2	<0.50	NA
	1/17/1996	<0.50	<0.50	<0.50	NA
	4/11/1996	<0.50	1.7	<0.50	NA
	7/17/1996	<0.50	<0.50	<0.50	<0.50
	10/6/1996	<0.50	<0.50	<0.50	<0.50
	1/2/2001	<5.0	<5.0	<5.0	<5.0
	5/17/2001	<5.0	<5.0	<5.0	<5.0
	10/16/2001	<5.0	<5.0	<5.0	<5.0
	1/11/2002	<5.0	<5.0	<5.0	<5.0
	7/24/2002	<5.0	<5.0	<5.0	NA
	1/23/2003	<5.0	<5.0	<5.0	<5.0
	1/25/2003	<5.0	<5.0	<5.0	<5.0
	1/23/2004	<5.0	<5.0	<5.0	<15
	10/11/2004	<0.50	<0.50	<0.50	<1.0
9/15/2011	<1.0	<1.0	<1.0	<3.0	
IRP78_GW06	1/12/1987	<1.0	<6.0	<7.2	<12
	3/8/1987	<1.0	<6.0	<7.2	<12
	5/27/1987	<1.0	<6.0	<7.2	<12
	1/10/1991	<5.0	<5.0	<5.0	<5.0
	9/26/2000	170	2,040	336	4,620
	6/30/2001	430	3,100	430	4,800
	12/19/2001	583	2,460	241	2,860
	6/25/2002	61.0	669	96.7	2,380
	12/17/2002	2.4	62.1	19.5	412
	6/24/2004	63.4	60.8	52.7	1,040
	10/6/2004	<0.50	<0.50	<0.50	<1.0
	8/3/2005	35.2	199.0	243.0	3,080
	4/7/2006	<3.16	105	48.8	991
	7/26/2007	7.6	179	119	2,370
	7/26/2007	<2.83	<5.01	23.5	167.8
	4/8/2008	13.6	97.3	110	863
	7/9/2008	ND	106	123	685
12/12/2008	ND	ND	23.5	167.8	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW07	1/12/1987	<1.0	<6.0	<7.2	<12
	3/9/1987	<1.0	<6.0	<7.2	<12
	5/27/1987	<1.0	<6.0	<7.2	<12
	1/9/1991	<5.0	<5.0	<5.0	<5.0
	10/11/2004	<0.50	<0.50	<0.50	<1.0
IRP78_GW12	1/14/1987	<1.0	<6.0	<7.2	<12
	3/9/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	1/9/1991	<5.0	<5.0	<5.0	<5.0
	5/23/1993	ND	ND	ND	ND
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	2/16/2000	<1.0	<1.0	<1.0	<2.0
	11/13/2000	<1.0	<1.0	<1.0	<2.0
	10/29/2008	<0.40	<0.35	<0.43	<1.2
9/14/2011	<1.0	<1.0	<1.0	<3.0	
IRP78_GW13	1/14/1987	<1.0	<6.0	<7.2	<12
	3/9/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	1/12/1991	<5.0	<5.0	<5.0	<5.0
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	2/16/2000	<1.0	<1.0	<1.0	<2.0
	11/16/2000	<1.0	<1.0	<1.0	<2.0
	10/24/2008	<0.40	<0.35	<0.43	<1.2
	9/17/2011	<1.0	<1.0	<1.0	<3.0
IRP78_GW14	1/14/1987	<1.0	<6.0	<7.2	<12
	3/9/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	1/10/1991	<5.0	<5.0	<5.0	<5.0
	5/23/1993	ND	ND	ND	ND
	7/9/1995	1.3	<1.0	<1.0	NA
	10/26/1995	<0.50	<0.50	<0.50	NA
	1/17/1996	<0.50	<0.50	<0.50	NA
	4/11/1996	<0.50	0.7	<0.50	NA
	7/12/1996	<0.50	<0.50	<0.50	<0.50
	10/5/1996	<0.50	<0.50	<0.50	<0.50
	2/2/1997	<0.50	<0.50	<0.50	<0.50
	4/27/1997	<0.50	<0.50	<0.50	<0.50
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	8/9/1997	<0.50	<0.50	<0.50	<0.50
	2/8/1998	<5.0	<5.0	<5.0	<5.0
7/26/1998	<5.0	<5.0	<5.0	<5.0	
1/16/1999	<5.0	<5.0	<5.0	<5.0	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW14—Cont.	7/17/1999	<5.0	<5.0	<5.0	<5.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0
	2/16/2000	<1.0	<1.0	<1.0	<2.0
	7/16/2000	<5.0	<5.0	<5.0	<5.0
	11/13/2000	<1.0	<1.0	<1.0	<2.0
	10/29/2008	<0.40	<0.35	<0.43	<1.2
	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78_GW15	1/15/1987	<1.0	<6.0	<7.2	<12
	3/9/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	1/8/1991	<5.0	<5.0	<5.0	<5.0
	5/24/1993	ND	ND	ND	ND
	7/14/1996	<0.50	<0.50	<0.50	NA
	10/7/1996	<0.50	<0.50	<0.50	<0.50
	2/5/1997	<0.50	<0.50	<0.50	<0.50
	4/30/1997	<0.50	<0.50	<0.50	<0.50
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	8/9/1997	<0.50	<0.50	<0.50	<0.50
	2/6/1998	<5.0	<5.0	<5.0	<5.0
	7/26/1998	<5.0	<5.0	<5.0	<5.0
	1/17/1999	<5.0	<5.0	<5.0	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0
	1/17/2000	<5.0	<5.0	<5.0	<5.0
	2/16/2000	<1.0	<1.0	<1.0	<2.0
7/17/2000	<5.0	<5.0	<5.0	<5.0	
5/20/2001	<5.0	<5.0	<5.0	<5.0	
11/13/2000	<1.0	<1.0	<1.0	<2.0	
10/28/2008	94.5	2,700	2,550	14,600	
IRP78_GW16	1/15/1987	<1.0	<6.0	<7.2	<12
	3/10/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	1/9/1991	<5.0	<5.0	<5.0	<5.0
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	2/16/2000	<1.0	<1.0	<1.0	<2.0
	11/13/2000	<1.0	<1.0	<1.0	<2.0
	10/28/2008	<0.40	<0.35	<0.43	<1.2
	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78_GW17-1	1/15/1987	<1.0	<6.0	<7.2	<12
	3/10/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	1/7/1991	<5.0	<5.0	<5.0	<5.0
	5/24/1993	ND	ND	ND	ND

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW17-1 —Cont.	7/12/1995	<1.0	<1.0	<1.0	NA
	10/26/1995	<0.50	<0.50	<0.50	NA
	1/17/1996	<0.50	<0.50	<0.50	NA
	4/10/1996	1.5	5.9	<0.50	NA
	7/15/1996	<1.0	<1.0	<1.0	NA
	10/7/1996	<0.50	<0.50	<0.50	<0.50
	2/2/1997	<0.50	<0.50	<0.50	<0.50
	4/29/1997	<0.50	<0.50	<0.50	<0.50
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	8/9/1997	<0.50	<0.50	<0.50	<0.50
	2/9/1998	<5.0	<5.0	<5.0	<5.0
	7/26/1998	<5.0	<5.0	<5.0	<5.0
	1/17/1999	<5.0	<5.0	<5.0	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0
	2/16/2000	<1.0	<1.0	<1.0	<2.0
	7/17/2000	<5.0	<5.0	<5.0	<5.0
11/16/2000	<1.0	<1.0	<1.0	<2.0	
10/29/2008	<0.40	<0.35	<0.43	<1.2	
9/16/2011	<1.0	<1.0	<1.0	<3.0	
IRP78_GW17-2	8/5/1987	<1.0	<6.0	<7.2	<12
	1/8/1991	3.0J	<5.0	<5.0	<5.0
	5/23/1993	ND	ND	ND	ND
	2/22/2000	3.0	8.0	2.0	11.0
	11/15/2000	1	<1.0	<1.0	<2.0
	7/18/2002	2.0	<1.0	<1.0	<2.0
	8/16/2007	9.8	<0.27	<0.20	<0.56
	2/27/2008	9.4	<0.27	<0.20	<0.56
	10/27/2008	<0.40	<0.35	<0.43	<1.2
	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78_GW19	1/16/1987	<1.0	<6.0	<7.2	<12
	3/10/1987	<1.0	<6.0	<7.2	<12
	5/27/1987	<1.0	<6.0	<7.2	<12
	1/11/1991	<5.0	<5.0	<5.0	<5.0
	5/23/1993	ND	ND	ND	ND
	7/10/1995	<1.0	<1.0	<1.0	NA
	10/26/1995	<0.50	<0.50	<0.50	NA
	1/17/1996	<0.50	<0.50	<0.50	NA
	4/10/1996	<0.50	<0.50	<0.50	NA
	7/16/1996	<0.50	<0.50	<0.50	<0.50
	10/5/1996	<0.50	<0.50	<0.50	<0.50
	6/4/1997	<0.5	<0.5	<0.5	<1.5

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW19—Cont.	2/15/2000	<1.0	<1.0	<1.0	<2.0
	11/13/2000	25	<1.0	<1.0	<2.0
	10/23/2008	<0.40	<0.35	<0.43	<1.2
IRP78_GW20	1/16/1987	<1.0	<6.0	<7.2	<12
	3/10/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	11/3/2008	<0.40	0.41J	<0.43	<1.2
	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78_GW21	1/16/1987	<1.0	<6.0	<7.2	<12
	3/10/1987	<1.0	<6.0	<7.2	<12
	5/28/1987	<1.0	<6.0	<7.2	<12
	1/12/1991	<5.0	<5.0	0.90J	5.0
	5/21/1993	2.0	ND	ND	ND
	7/9/1995	<1.0	<1.0	<1.0	NA
	10/25/1995	<0.50	1.4	<0.50	NA
	1/17/1996	<0.50	0.8	<0.50	NA
	4/10/1996	<0.50	<0.50	<0.50	NA
	7/17/1996	<0.50	<0.50	<0.50	<0.50
	10/3/1996	<0.50	<0.50	<0.50	<0.50
	2/3/1997	<0.50	<0.50	<0.50	<0.50
	4/28/1997	<0.50	<0.50	<0.50	<0.50
	6/5/1997	<0.5	<0.5	<0.5	<1.5
	8/10/1997	<0.50	<0.50	<0.50	<0.50
	2/5/1998	<5.0	<5.0	<5.0	<5.0
	7/28/1998	<5.0	<5.0	<5.0	<5.0
	1/17/1999	<5.0	<5.0	<5.0	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0
2/23/2000	<1.0	<1.0	<1.0	<2.0	
7/16/2000	<5.0	<5.0	<5.0	<5.0	
11/15/2000	<1.0	<1.0	<1.0	<2.0	
10/20/2008	<0.40	<0.35	<0.43	<1.2	
9/17/2011	<1.0	<1.0	<1.0	<3.0	
IRP78_GW22A	7/9/1995	1.2	<1.0	<1.0	NA
	10/25/1995	<25	<25	<25	NA
	1/19/1996	<25	<25	<25	NA
	4/9/1996	<0.50	<0.50	<0.50	NA
	7/17/1996	<0.50	<0.50	<0.50	<0.50
	10/4/1996	<0.50	<0.50	<0.50	<0.50
	2/5/1997	<0.50	<0.50	<0.50	<0.50
	4/28/1997	<0.50	<0.50	<0.50	<0.50

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW22A—Cont.	8/10/1997	0.8	0.6	<0.50	<0.50
	2/5/1998	<5.0	<5.0	<5.0	<5.0
	2/27/1998	<5.0	<5.0	<5.0	<5.0
	1/17/1999	<5.0	<5.0	<5.0	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0
	7/16/2000	<5.0	<5.0	<5.0	<5.0
	1/9/2001	<5.0	<5.0	<5.0	<5.0
	7/12/2001	<5.0	<5.0	<5.0	<5.0
	1/24/2002	<5.0	<5.0	<5.0	<5.0
	7/23/2002	<5.0	<5.0	<5.0	<5.0
	1/25/2003	<5.0	0.20J	0.10J	<5.0
	1/23/2004	<5.0	<5.0	<5.0	<15
	1/17/2005	<1.0	0.53J	<1.0	<3.0
	4/25/2005	<1.0	<1.0	<1.0	<1.0
	7/28/2005	<1.0	<1.0	<1.0	<1.0
	10/20/2005	<1.0	<1.0	<1.0	<1.0
	1/11//2006	<0.316	<0.302	<0.299	<0.61
	4/17//2006	<0.316	<0.302	<0.299	<0.61
	7/18/2006	<0.316	<0.302	<0.299	<0.61
10/17/2006	<1.0	<1.0	<1.0	<2.0	
1/16/2007	<0.18	0.87	<0.18	<0.58	
3/13//2007	<0.20	<0.16	<0.17	<0.33	
IRP78_GW23	1/19/1987	<10	<60	<72	<120
	3/11/1987	<100	<600	<720	<1,200
	5/29/1987	<100	<600	<720	<1,200
	1/18/1991	24	13	9.0	41
	5/23/1993	ND	ND	5.0J	28J
	7/12/1995	30	1.6	7.3	NA
	10/25/1995	23	5.4	35.5	NA
	1/17/1996	<25	<25	<25	NA
	4/9/1996	16	3.5	24	NA
	7/14/1996	17	4.0	9.0	57
	10/4/1996	16	3.0	7.0	51
	2/5/1997	16	3.0	7.0	46
	4/28/1997	<50	<50	<50	<50
	8/10/1997	17	4.0	7.0	50
	2/5/1998	<620	<620	<620	<620
	7/26/1998	18J	9.4J	9.7J	61
	1/17/1999	18	4.0J	8	57
6/23/1999	18	4	1	57	
7/17/1999	16	4.0J	10	68	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW23—Cont.	8/24/1999	14	4	12	63
	9/24/1999	11	ND	ND	32
	10/21/1999	17	4	7	59
	1/17/2000	16	4.0J	9.0	56
	1/24/2000	17	4	9	65
	4/19/2000	18	7	9	63
	7/17/2000	14	4.0J	8.0	69
	7/24/2000	15	4	9	56
	10/19/2000	17	4.0J	8.0	74
	10/23/2000	14	3	5	43
	1/11/2001	14	3.0J	5.0	51
	1/23/2001	13	2	5	38
	4/23/2001	12	4	8	55
	7/12/2001	11	3.0J	8.0	46
	7/19/2001	12	4	7	52
	10/25/2001	7	ND	ND	28
	1/21/2002	9	4	7	38
	1/24/2002	11	4.0J	8.0	56
	4/23/2002	14	5	10	68
	7/22/2002	12	<5.0	10	73
	10/23/2002	12	4.0	8.4	74.9
	1/25/2003	10	3.0J	6.0	49
	2/5/2003	11.8	6.0	6.8	51.2
	5/14/2003	9.0	3.1	4.9	27.5
	8/6/2003	7.7	2.2	2.7	28.2
	10/30/2003	<50	<50	<50	<50
	1/13/2004	10.8	2.7	1.9	33.8
	1/23/2004	11	2.0J	2.0J	39
	4/8/2004	<100	<100	<100	<100
	7/9/2004	11.3	<10	<10	43.5
	10/11/2004	<50	<50	<50	<150
	1/10/2005	<20	<20	<20	<20
4/25/2005	<20	<20	<20	26.6J	
7/26/2005	<20	<20	<20	24.7J	
10/20/2005	4.9	2.3	1.2	24.9	
1/11/2006	4.6	2.0	1.3	20.9	
4/17/2006	6	2.5	1.1	24.8	
7/18/2006	4.8	3.8	1.7	25.8	
10/17/2006	2.8	3.0	1.3	16.5	
1/16/2007	3.3	3.2	2.0	15.2	
3/13/2007	3.1	2.0	1.0	11.9	
9/15/2011	2.1	0.83J	1.1	4.4	

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW31-2	1/17/1991	<5.0	<5.0	<5.0	1.0J
	5/24/1993	ND	ND	ND	ND
	6/4/1997	<0.5	<0.5	<0.5	<1.5
	2/17/2000	<1.0	<1.0	<1.0	<2.0
	11/16/2000	<1.0	<1.0	<1.0	<2.0
	8/28/2002	<1.0	<1.0	<1.0	<2.0
	8/14/2007	<0.20	<0.27	<0.20	<0.56
	10/29/2008	<0.40	<0.35	<0.43	<1.2
	9/15/2011	<1.0	<1.0	<1.0	<3.0
IRP78_GW31-3	5/24/1993	15J	ND	ND	ND
	7/12/1995	<1.0	<1.0	<1.0	NA
	11/6/1995	<0.50	<0.50	<0.50	NA
	1/20/1996	<0.50	<0.50	<0.50	NA
	4/17/1996	<0.50	1.1	<0.50	NA
	7/11/1996	<0.50	<0.50	<0.50	<0.50
	10/8/1996	<0.50	<0.50	<0.50	<0.50
	6/4/1997	<0.5	<0.5	<0.5	<1.5
	2/17/2000	<1.0	<1.0	<1.0	<2.0
	11/16/2000	<1.0	<1.0	<1.0	<2.0
	8/28/2002	<1.0	<1.0	<1.0	<2.0
	10/29/2008	<0.40	<0.35	<0.43	<1.2
	9/15/2011	<1.0	<1.0	<1.0	<3.0
IRP78_GW32-2	1/12/1991	27	31	2.0J	8.0
	5/22/1993	ND	ND	ND	ND
	6/4/1997	64.2	59.3	28.3	113.6
	2/18/2000	6.0	<5.0	<5.0	<10
	11/14/2000	23	<5.0	<5.0	<10
	1/31/2001	39	86	30	120
	7/24/2001	1.9	8.0	2.9	9.2
	2/9/2002	228	95.2	<10	984
	8/14/2002	13.1	15.5	1.4	8.6
	2/21/2003	109	1.7	1.9	1.7J
	8/25/2003	176	3.5J	<2.5	<5.0
	2/23/2004	325	43.9	16.0	55.7
	9/13/2004	321	149	37.4	178
	4/6/2005	604	48.4	15.4	110
	8/18/2007	915	2,930	705	3,200
	3/3/2008	33.7	96.3	12.7	68.9
	10/29/2008	13.3	28.1	6.3	43.4
9/27/2011	<1.0	<1.0	<1.0	<3.0	

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_GW32-3	5/23/1993	ND	ND	ND	ND
	6/4/1997	5.1	2.6	<0.5	<1.5
	1/31/2001	7.3	82	31	120
	7/24/2001	98	<1.2	<1.1	<2.2
	2/9/2002	2.7	2.2	<1.0	4.1
	8/14/2002	124	88.7	14.0	153
	2/21/2003	7.1	1.2	1.3	<1.0
	8/26/2003	0.64J	2.4	1.4	10.5
	2/23/2004	20.9	183	59.8	3
	9/9/2004	28.9	60.6	8.7	64.0
	4/6/2005	8.2	5.5	1.4	20.5
	8/18/2007	74.6	321	54.0	679
	3/3/2008	0.53	3.4	0.7	3.9
	10/27/2008	1.3	<0.35	<0.43	<1.2
9/27/2011	<1.0	<1.0	<1.0	<3.0	
IRP78-GW79IW	9/17/2011	6.4	<1.0	<1.0	<3.0
IRP78-GW80DW	9/17/2011	59	<1.0	<1.0	<3.0
IRP78-GW80IW	9/17/2011	180	<1.0	<1.0	<3.0
IRP78-GW81DW	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW81IW	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW82IW	9/17/2011	4.3	<1.0	<1.0	<3.0
IRP78-GW83IW	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW84IW	9/13/2011	0.77J	<1.0	<1.0	<3.0
IRP78-GW85	9/15/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW85IW	9/15/2011	1.4	<1.0	<1.0	<3.0
IRP78-GW86DW	9/17/2011	<1.0	0.68J	<1.0	<3.0
IRP78-GW87MCH	9/16/2011	1.0	23	<1.0	<3.0
IRP78-GW88UCH	9/15/2011	5.3	<1.0	<1.0	<3.0
IRP78-GW89MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW90MCH	9/16/2011	0.53J	<1.0	<1.0	<3.0
IRP78-GW91LCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW92MCH	9/16/2011	130	<1.0	<1.0	<3.0
IRP78-GW93MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW94LCH	9/16/2011	0.85J	<1.0	<1.0	<3.0
IRP78-GW95MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW96MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW97LCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW98 MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW99 MCH	9/15/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW100 MCH	9/16/2011	32	10	16	12
IRP78-GW101 MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW102 MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0

Table D4**Table D4.** Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78-GW103 MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW104 LCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW105MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW106MCH	9/16/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW107	9/15/2011	0.59J	<1.0	<1.0	<3.0
IRP78-GW108 UCH	9/15/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW109 UCH	9/15/2011	0.64J	<1.0	<1.0	<3.0
IRP78-GW110 MCH	9/14/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW111 MCH	9/14/2011	<1.0	<1.0	<1.0	<3.0
IRP78-GW112 MCH	9/14/2011	<1.0	<1.0	<1.0	<3.0
IRP78_RW10N	7/13/1995	451	66.2	54.7	NA
	10/25/1995	118	12.5	175	NA
	1/17/1996	106	9.8	62.4	NA
	4/9/1996	81	10	33	NA
	6/23/1999	240	13	94	240
	1/17/2000	220D	18	85	120
	7/17/2000	200	9.0	69	180
	7/24/2000	110	ND	29	47
	10/23/2000	67	ND	29	114
	1/11/2001	29	<5.0	4.0J	20
	1/23/2001	37	74	340	440
	4/23/2001	60	ND	19	34
	7/12/2001	120	<5.0	4.0J	8.0
	7/19/2001	99	ND	11	22
	10/25/2001	140	ND	74	59
	1/21/2002	220	5	96	90
	1/24/2002	160	4.0J	71	60
	4/23/2002	200	ND	66	68
	1/28/2003	190	2.0J	45	17
	10/30/2003	34	<1.0	2.3	<1.0
	1/13/2004	232	1.7	23	5.7
	1/23/2004	180	1.0J	23	4.0J
	4/8/2004	479	1.3	21.1	5.9
	7/9/2004	410	0.62J	3.2	<3.0
	10/11/2004	0.81J	3.3	5.9	18.7
	1/10/2005	182	<1.0	22.6	18.4
	4/25/2005	217	<5.0	22.1	18.3
	7/26/2005	168	2.6J	18.1	12.6
	10/20/2005	114	<5.0	13.8	8.7J
	1/11/2006	138	<2.42	13.3	5.3
	4/17/2006	122	<1.5	8.8	<3.0

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Site name ¹	Sample date	Concentration, in micrograms per liter			
		Benzene	Toluene	Ethylbenzene	Xylenes
IRP78_RW10N—Cont.	7/18/2006	10.6	1.4	0.9	2.7
	10/17/2006	148	<8.0	14	<16.0
	1/18/2007	80.1	<0.63	5.8	2.2
	3/13/2007	108	<0.64	9.0	<1.3
	9/13/2011	4.6	<1.0	<1.0	<3.0

¹See Faye et al. 2010 (Plate 1) for site locations. Names in parentheses after some of the site names refer to corporations or companies who installed the well

Data sources:

- Building 20 Law Engineering and Environmental Services, Inc. 2000f (UST#49)
- Building 21 ATEC Environmental Consultants, Inc. 1992c (UST#36); Baker Environmental, Inc. 1993c (UST#45); Law Engineering and Environmental Services, Inc. 2000h (UST#51)
- Building 24 Law Engineering and Environmental Services, Inc. 2002a (UST#390)
- Building 30 Osage of Virginia, Inc. 2008 (UST#30_2008ROF_FINAL)
- Building 33 Law Engineering, Inc. 1996a (UST#67); R.E. Wright Associates, Inc. 1994c (UST#59)
- Building 45/IR Site 84
ATEC Environmental Consultants, Inc. 1992b (UST#730); Baker Environmental, Inc. 2002b (CERCLA#3268); Engineering and Environment, Inc. 2005a (UST#45_2005MON); J.A. Jones Environmental Services Company 2002b (UST#20070730_001); Law Engineering and Environmental Services, Inc. 1996d (UST#742); Law Engineering, Inc. 1994a (UST#737); R.E. Wright Associates, Inc. 1994a (UST#740); Sovereign Consulting, Inc. 2006b (UST#BLDG45_2006AMR), 2008a (UST#BLDG452008FINALAMR)
- Building 61 R.E. Wright Associates, Inc. 1994d (UST#64)
- Building 311 Law Engineering and Environmental Services, Inc. 2000e (UST#230)
- Building 331 Law Engineering, Inc. 1996b (UST#63)
- Building 575 Catlin Engineers and Scientists 1997 (UST #20070802_010)
- Building 645 Catlin Engineers and Scientists 2008 (UST#645_ADDL_SITEASSESS); Engineering and Environment, Inc. 2006a (UST#2005AMR_645); J.A. Jones Environmental Services Company 2001a (UST#727), 2001b (UST#718); R.E. Wright Associates, Inc. 1994b (UST#728); Richard Catlin and Associates, Inc. 1995a (UST#717), 1996b (UST#710); Sovereign Consulting, Inc. 2006c (UST#645_2006AMR), 2007a (UST#BLDG645FINALAMR2007), 2008b (UST#645_2008FINALAMR)
- Building 728 Versar, Inc. 1992 (UST#735)
- Building 820 Law Engineering, Inc. 1995c (UST#543), 1995a (UST#715); OHM Remediation Services Corp 2000d (UST#539), 2001b (UST#527), 2002b (UST#528); Shaw Environmental, Inc. 2002 (UST#733), 2005b (UST#BUILDING_820_FINAL_2004_ANNUAL_MONITORING_REPORT); Shaw Environmental, Inc. 2006b (UST#2005AMR_820), 2007b (UST#820_2007AMR), 2008a (UST#2008_AMR_BM_820); Shaw Environmental, Inc. 2009b (UST#BM820_2009FINALAMR_SHAW)
- Building 900 Baker Environmental, Inc. and CH2M Hill Inc. 2002a (CERCLA#3273); Engineering and Environment, Inc. 2006b (UST#900_2005MON); Law Engineering and Environmental Services, Inc. 1997d (UST#716); R.E. Wright Environmental, Inc. 1996 (UST#529); Sovereign Consulting, Inc. 2006d (UST#900_2006AMR), 2007b (UST#900AMRFINAL2007)
- Building 903 Groundwater Technology Government Services, Inc. 1993b (UST#70); S&ME, Inc. 1998a (UST#71)
- Building 1101 Catlin Engineers and Scientists 2001f (UST#468), 2002c (UST#370); Shaw Environmental, Inc. 2008b (UST#HPFF_20072008_AMR_061608), 2009d (UST#HPFF_2009FINALAMR_SHAW)
- Building 1106 Law Engineering and Environmental Services, Inc. 1997b (UST#68)
- Building 1115 Catlin Engineers and Scientists 1998b (UST#456), 2000b (UST#666), 2001f (UST#468), 2002c (UST#370), 2007a (UST#FINAL_UST_MANRPT_YEAR2006); Groundwater Technology Government Services, Inc. 1993a (UST#383); OHM Remediation Services Corp 2001a (UST#664), 2002a (UST#407); Richard Catlin and Associates, Inc. 1998a (UST#410), 1998b (UST#408); Shaw Environmental, Inc. 2003b (UST#420), 2004b (UST#2003_FINAL_HADNOT_POINT), 2005a (UST#HADNOT_PT_1115_SITES_FINAL_2004_ANNUAL_AS-SVE_MONITORING_REPORT), 2006b (UST#HPFF_2005ASSVEMONRPT), 2007a (UST#HPFF_2007AMR), 2009d (UST#HPFF_2009FINALAMR_SHAW)
- Building 1310 R.E. Wright Associates, Inc. 1994e (UST#76)

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Building 1323	Mid-Atlantic Associates, Inc. 2003b (UST#405)
Building 1450	Law Engineering and Environmental Services, Inc. 1997c (UST#164), 1997e (UST#78), 2000c (UST#187)
Building 1502	Law Engineering and Environmental Services, Inc. 2002b (UST#532); R.E. Wright Environmental, Inc. 1995d (UST#163)
Building 1601	Richard Catlin and Associates, Inc. 1997a (UST#195)
Building 1607	R.E. Wright Associates, Inc. 1994f (UST#724); S&ME, Inc. 1998c (UST#723)
Building 1613/IR Site 94	OHM Remediation Services Corp. 2000c (UST#547), 2001d (UST#550), 2001e (UST#555), 2002c (UST#549); Richard Catlin and Associates, Inc. 1996a (UST#548); Shaw Environmental, Inc. 2003a (UST#20070730_008), 2005c (UST#BUILDING_1613_FINAL_2004_ANNUAL_MONITORING_REPORT); Sovereign Consulting, Inc. 2006e (UST#1613_2006AMR), 2008c (UST#1613FINALAMR2008)
Building 1817	Catlin Engineers and Scientists 1997 (UST #20070802_010)
Building 1854	Richard Catlin and Associates, Inc. 1996c (UST#99), 1997b (UST#100)
Building 1880	Law Engineering and Environmental Services, Inc. 1996i (UST#86)
Building 1919-1	R.E. Wright Associates, Inc. 1994g (UST#485)
Building 1919-2	Law Engineering and Environmental Services, Inc. 2001b (UST#391)
Building 5400	Law Engineering and Environmental Services, Inc. 1997f (UST#180)
Building FC40	Catlin Engineers and Scientists 2003b (UST#116)
Building FC102	R.E. Wright Associates, Inc. 1994i (UST#261)
Building FC120	Groundwater Technology Government Services, Inc. 1993d (UST#268)
Building FC201	Groundwater Technology Government Services, Inc. 1993e (UST#693), 1993f (UST#269); Law Engineering, Inc. 1994b (UST#750); Sovereign Consulting, Inc. 2006a (UST#FC201E_2006AMR)
Building FC251	R.E. Wright Associates, Inc. 1994k (UST#263); Richard Catlin and Associates, Inc. 1996d (UST#276)
Building FC263	Richard Catlin and Associates, Inc. 1995c (UST#139)
Building FC280	Catlin Engineers and Scientists 1997 (UST #20070802_010)
Building FC281	Law Engineering and Environmental Services, Inc. 2000g (UST#155)
Building H19	Catlin Engineers and Scientists 2005a (UST#204055_H_19_ASR); Law Engineering and Environmental Services, Inc. 1997g (UST#374), 2000a (UST#397), 2001fc (UST#398); R.E. Wright Environmental, Inc. 1995b (UST#755)
Building H28	ATEC Environmental Consultants, Inc. 1992a (UST#761); Baker Environmental, Inc. 1994b (UST#571); Catlin Engineers and Scientists 2006b (UST#QUARTERLY_GW_MONITORING_REPORT_SITEH-28_REV0_2-4-05); Engineering and Environment, Inc. 2003 (UST#482); Engineering and Environment, Inc. 2005b (UST#ANNUAL_GROUNDWATER_MONITORING_REPORT_SITE_H-28_REVISION_0); Engineering and Environment, Inc. 2006e (UST#H28_2006MON); Law Engineering and Environmental Services, Inc. 2001d (UST#20070727_002); Sovereign Consulting, Inc. 2007c (UST#H28AMRFINAL2007)
Building H30	Catlin Engineers and Scientists 2001a (UST#384); Law Engineering and Environmental Services, Inc. 1996h (UST#758), 1999 (UST#395), 2000b (UST#376), 2001e (UST#759)
Building HP100	Law Engineering and Environmental Services, Inc. 1998b (UST#672)
Building HP250	Catlin Engineers and Scientists 1997 (UST #20070802_010)
Building LCH4015	Engineering and Environment, Inc. 2006c (UST#2005AMR_LCH4015); Law Engineering and Environmental Services, Inc. 1996a (UST#237); R.E. Wright Environmental, Inc. 1995c (UST#246); Shaw Environmental, Inc. 2004a (UST#20070730_009); Sovereign Consulting, Inc. 2006f (UST#LCH4015_2006AMR), 2007d (UST#LCH4015FINALAMR2007), 2007f (UST#LCH4015OCT2007_INVESTREPORT), 2008d (UST#LCH40152008FINALAMR)

Table D4. Summary of analyses for benzene, toluene, ethylbenzene, and total xylenes in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; D, sample dilution required; ND, constituent not detected; J, estimated concentration; B, constituent detected in blank; AKA, also known as]

Building LCH4022	Groundwater Technology Government Services, Inc. 1993h (UST#145); J.A. Jones Environmental Services Company 2002a (UST#LCH4022_NFA_REQUEST); Richard Catlin and Associates, Inc. 1995b (UST#152)
Building NH118	Law Engineering and Environmental Services, Inc. 1998c (UST#354); Catlin Engineers and Scientists 1997 (UST #20070802_010)
Building PP3311	Catlin Engineers and Scientists 2002e (UST#465)
Building PP3322	Catlin Engineers and Scientists 2002f (UST#120)
Building PP3332	Catlin Engineers and Scientists 2002i (UST#130)
Building PP3340	Catlin Engineers and Scientists 2002j (UST#208)
Building PP3354	Catlin Engineers and Scientists 2002l (UST#227)
Building PP3363	Mid-Atlantic Associates, P.A. 2002 (UST#385)
Building PT-5	J.A. Jones Environmental Services Company 1999a; Law Engineering and Environmental Services, Inc. 1996j
Building PT37	Catlin Engineers and Scientists 1999a (UST#368)
Building S688	Catlin Engineers and Scientists 1999b (UST#359)
Building S1856	Catlin Engineers and Scientists 2001b (UST#196); R.E. Wright Environmental, Inc. 1995a (UST#79); Richard Catlin and Associates, Inc. 1997b (UST#100)
Building SLCH4019	Law Engineering and Environmental Services, Inc. 1996g (UST#346); R.E. Wright Associates, Inc. 1994j (UST#345)
HPFF, IRP22, IRP78	Catlin Engineers and Scientists 1998b, 2000abc, 2001f, 2002abcd, 2003d, 2004h, 2007a, 2009c (UST files #370, #386, #404, #418, #435, #456, #468, #666, #677, #668, #747, #HPFF_BIO-PULSE_SPARGE_PILOT_TEST_REPORT, #FINAL_UST_MANRPT_YEAR2006); Groundwater Technology Government Services, Inc. 1993a (UST file #383); OHM Remediation Services Corp. 2001ag, 2002a (UST file #407, #664, #676); Richard Catlin and Associates, Inc. 1994, 1997c, 1998ab (UST file #245, #408, #410, #457); Geophex, Ltd 1997, 2002a (UST file #416, #450); Shaw Environmental, Inc. 2003b, 2004b, 2005a, 2006a, 2007a, 2008b, 2009d (UST file #420, #2003_Final_Hadnot_Point, #HPFF_2005ASSVEMONRPT, #HPFF_2009FinalAMR_Shaw, #HPFF_20072008_AMR_061608, HADNOT_PT_1115_Sites_FINAL_2004_ANNUAL_AS-SVE_MONITORING REPORT, #HPFF_2007AMR); O'Brien and Gere Engineers, Inc. 1988 (UST file #669); CH2MHill 2001 (UST file #670); U.S. Marine Corps 2003ab (UST file #1185, #1186); Faye et al. 2010
Michael Road Fuel Farm	Catlin Engineers and Scientists 2005f (UST#204100_MRFF_PHASE_I_LSA)
Tank S781	Baker Environmental, Inc. 2002b (CERCLA#3268); O'Brien and Gere Engineers, Inc. 1992b (UST#158)
Tanks S889&S891	O'Brien and Gere Engineers, Inc. 1992a (UST#156)

Additional data sources:

CH2MHill, written communication, December 16, 2011

Charity M. Rychak, U.S. Marine Corps Camp Lejeune, North Carolina, written communication, November 22, 2011

Table D5**Table D5.** Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg20_MW01	28-Nov-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg21_DW01	19-May-92	<1.0	NA	<1.0	<1.0	NA	NA	<1.0
Bldg21_DW02	19-May-92	<1.0	NA	<1.0	<1.0	NA	NA	<1.0
Bldg21_DW03	19-May-92	<1.0	NA	<1.0	<1.0	NA	NA	<1.0
Bldg21_DW04	19-May-92	<1.0	NA	<1.0	<1.0	NA	NA	<1.0
Bldg21_MW06	19-May-92	<1.0	NA	<1.0	<1.0	NA	NA	<1.0
Bldg21_MW08	19-May-92	<1.0	NA	<1.0	<1.0	NA	NA	<1.0
Bldg21_MW11	19-May-92	<1.0	NA	<1.0	<1.0	NA	NA	<1.0
Bldg21_MW12	17-Aug-99	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<2.0
Bldg21_MW14	17-Aug-99	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<2.0
Bldg21_MW17	17-Aug-99	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<2.0
Bldg24_MW01	25-Sep-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	25-Sep-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg30_TMW11	29-Apr-08	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg30_TMW24	29-Apr-08	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
Bldg33_MW01	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg33_MW02	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg33_MW03	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
45-1-MW01 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
45-1-MW02 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
45-1-MW03 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
45-1-MW04 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
45-1-MW05 (Wright)	23-Jun-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg45_MW07 (Law)	06-Aug-01	NA	<0.14	NA	NA	NA	NA	NA
Bldg45_MW08 (Law)	06-Aug-01	NA	<0.14	NA	NA	NA	NA	NA
Bldg45_MW09 (Law)	05-Aug-01	NA	<0.14	NA	NA	NA	NA	NA
Bldg45_MW10 (Law)	05-Aug-01	NA	<0.14	NA	NA	NA	NA	NA
Bldg45_MW16 (Law)	23-Jun-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg311_MW06	14-Nov-00	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
	14-Nov-00	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
Bldg645_MW01	09-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW02	09-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW03	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW04	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW05	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW06	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW07	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW08	17-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW09	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
Bldg645_MW10	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW11	17-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW12	08-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW13	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	09-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW14	17-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW15	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW16	11-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW17	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	09-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW18	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	10-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW19	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW20	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW21	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW22	08-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW23	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	09-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW24	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	09-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW25	18-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	10-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW26	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	11-Jan-07	<4.0	<2.0	<2.0	<2.0	<4.0	NA	<2.0
Bldg645_MW27	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	11-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW28	17-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	09-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW29	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	11-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW30	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	10-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW31	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	10-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW32	19-Jul-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	11-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW35	07-Mar-08	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW36	07-Mar-08	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg645_MW37	07-Mar-08	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg728_MW01S	26-Nov-91	<1.0	<1.0	<1.0	NA	NA	NA	<1.0
Bldg728_MW02D	26-Nov-91	<1.0	<1.0	<1.0	NA	NA	NA	<1.0
Bldg728_MW04S	26-Nov-91	<1.0	<1.0	<1.0	NA	NA	NA	<1.0
Bldg728_MW06S	27-Nov-91	<1.0	<1.0	<1.0	NA	NA	NA	<1.0
Bldg728_MW07S	26-Nov-91	<1.0	<1.0	<1.0	NA	NA	NA	<1.0
Bldg820_HP06	02-Dec-92	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_HP07	02-Dec-92	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_HP10	08-Dec-92	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_MW04	17-Nov-99	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0
	29-Aug-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<1.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
Bldg820_MW05	17-Nov-99	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0
	29-Aug-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<1.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW06	22-Dec-92	<40	<90	<70	<70	NA	NA	<90
	17-Nov-99	<50	<50	<50	<50	<50	NA	<50
Bldg820_MW07	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0
	29-Aug-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<1.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW08	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW09	22-Dec-92	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<50	<50	<50	<50	<50	NA	<50
	18-May-00	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	29-Aug-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<1.0
	13-Dec-00	<50	<50	<50	<50	<50	NA	<50
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<50	<50	<50	<50	<50	NA	<50
Bldg820_MW10	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0
	29-Aug-00	<1.0	<2.0	<2.0	<2.0	<2.0	NA	<6.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW11	17-Nov-99	<20	<20	<20	<20	<20	NA	<20
	18-May-00	<20	<20	<20	<20	<20	NA	<20
	29-Aug-00	<20	<20	<20	<20	<20	NA	<10

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
Bldg820_MW11—Cont.	13-Dec-00	<100	<100	<100	<100	<100	NA	<100
	19-Mar-01	<100	<100	<100	<100	<100	NA	<100
Bldg820_MW12	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0
	29-Aug-00	<1.0	<2.0	<2.0	<2.0	<2.0	NA	<6.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW13	14-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
Bldg820_MW14	14-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW15	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_MW16	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW17	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW18	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW19	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW20	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW21	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0
	29-Aug-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<1.0
	29-Aug-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<1.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW22	21-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_MW23	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_MW24	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_MW25	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
Bldg820_MW26	13-Apr-94	<0.4	<0.9	<0.7	<0.7	NA	NA	<0.9
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<3.0

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg820_MW26—Cont.	29-Aug-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<1.0
	13-Dec-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Mar-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg820_MW28	25-May-05	<50	<50	<50	<50	<50	NA	<50
Bldg820_MW29	25-May-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg900_MW01	30-Oct-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Jan-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Apr-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	08-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-04	<1.0	145.5	<1.0	<1.0	57	NA	<1.0
	11-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Jul-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0	
Bldg900_MW02	30-Oct-03	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	12-Jan-04	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	07-Apr-04	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	08-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-04	<1.0	145.5	<1.0	<1.0	57	NA	<1.0
	11-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jul-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0	
Bldg900_MW03	30-Oct-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Jan-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Apr-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	08-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jul-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Oct-05	<1.0	0.51J	<1.0	<1.0	<1.0	NA	<1.0

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg900_MW03—Cont.	11-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg900_MW04	23-Jul-02	NA	NA	NA	2.0J	NA	NA	NA
	30-Oct-03	<10	<10	<10	<10	<10	NA	<10
	12-Jan-04	<10	<10	<10	<10	<10	NA	<10
	07-Apr-04	<10	<10	<10	<10	<10	NA	<10
	08-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-04	<10	<10	<10	<10	<10	NA	<10
	11-Jan-05	<10	<10	<10	<10	<10	NA	<10
	26-Apr-05	<20	<20	<20	<20	<20	NA	<20
	25-Jul-05	<20	<20	<20	<20	<20	NA	<20
	19-Oct-05	<20	<20	<20	<20	<20	NA	<20
	11-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg900_MW05	30-Oct-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Jan-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Apr-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	08-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jul-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0	
Bldg900_MW06	30-Oct-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	13-Jan-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	08-Apr-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	09-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Jul-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg900_MW06—Cont.	20-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg900_MW07	30-Oct-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg900_MW08	30-Oct-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	13-Jan-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Apr-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	08-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10-Jan-05	<1.0	<1.0	<1.0	<1.0	0.8J	NA	<1.0
	26-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jul-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Oct-05	<1.0	0.51J	<1.0	<1.0	<1.0	NA	<1.0
	10-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
	13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg900_MW09	30-Oct-03	<1.0	<1.0	<1.0	<1.0	0.69J	NA	<1.0
	13-Jan-04	<1.0	<1.0	<1.0	<1.0	0.54J	NA	<1.0
	07-Apr-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	08-Jul-04	<1.0	<1.0	<1.0	<1.0	0.6J	NA	<1.0
	11-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10-Jan-05	<1.0	<1.0	<1.0	<1.0	0.8J	NA	<1.0
	26-Apr-05	<1.0	<1.0	<1.0	<1.0	0.8J	NA	<1.0
	25-Jul-05	<1.0	<1.0	<1.0	<1.0	0.78J	NA	<1.0
	19-Oct-05	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	10-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Jul-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	1.06
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	0.225J
13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0	
Bldg900_MW10	30-Oct-03	<1.0	<1.0	<1.0	<1.0	2.1	NA	<1.0
	30-Oct-03	<1.0	<1.0	<1.0	<1.0	2.0	NA	<1.0
	12-Jan-04	<1.0	<1.0	<1.0	<1.0	2.1	NA	<1.0
	07-Apr-04	<1.0	<1.0	<1.0	<1.0	1.7	NA	<1.0
	08-Jul-04	<1.0	0.56J	<1.0	<1.0	1.9	NA	<1.0

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg900_MW10—Cont.	11-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10-Jan-05	<1.0	<1.0	<1.0	<1.0	2.0	NA	<1.0
	26-Apr-05	<1.0	<1.0	<1.0	<1.0	1.5	NA	<1.0
	25-Jul-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Oct-05	<1.0	0.51J	<1.0	<1.0	2.0	NA	<1.0
	10-Jan-06	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Apr-06	<1.0	<1.0	<1.0	<1.0	0.959J	NA	<1.0
	19-Jul-06	<1.0	<1.0	<1.0	<1.0	2.08	NA	<1.0
	15-Jan-07	<2.0	<1.0	<1.0	<1.0	1.55J	NA	<1.0
	13-Mar-07	<2.0	<1.0	<1.0	<1.0	<2.0	NA	<1.0
Bldg1101_MW01	16-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1101_MW02	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1101_MW03	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1106_GP01	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP02	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP03	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP04	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP05	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP06	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP07	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP08	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP09	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP10	19-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP11	20-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP12	20-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP13	19-Sep-96	<1.08	<1.04	<1.17	<1.18	<1.03	ND	<1.29
Bldg1106_GP14	20-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP15	20-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1106_GP16	20-Sep-96	<0.08	<0.04	<0.17	<0.18	<0.03	ND	<0.29
Bldg1115_GT01	16-Jun-93	<50	<50	<50	NA	NA	NA	<100
	16-Jun-93	<50	<50	<50	NA	NA	NA	<100
	05-Jun-97	5.4	<0.5	<0.5	<0.5	NA	NA	<0.5
	15-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Jan-01	1.2	0.52J	<1.0	<1.0	0.14J	NA	<1.0
	29-Jul-01	1.9	0.64J	<1.0	<1.0	0.51J	NA	<1.0
	05-Aug-02	2.6	1.2	<1.0	<1.0	0.8J	NA	<1.0
	18-Feb-03	2.4	1.3	<1.0	<1.0	0.69J	NA	<1.0
	22-Aug-03	2.3	1.5	<1.0	<1.0	<1.0	NA	<1.0
	21-Feb-04	2.1	2.1	<1.0	<1.0	1.0	NA	<1.0
	25-Aug-04	1.6	1.9	<1.0	<1.0	1.0	NA	<1.0

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1115_GT01—Cont.	24-Mar-05	1.3	1.3	<1.0	<1.0	1.1	NA	<1.0
	17-Aug-05	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	23-Jan-06	ND	NA	NA	NA	ND	NA	NA
	23-Jan-06	ND	NA	NA	NA	ND	NA	NA
	03-Oct-06	ND	NA	NA	NA	ND	NA	NA
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	0.89J	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_GT02	16-Jun-93	<25	<25	<25	NA	NA	<25	<50
	16-Dec-93	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0
	17-Feb-00	<20	<20	<20	<20	<20	NA	<20
Bldg1115_GT03	16-Jun-93	<250	<250	<250	NA	NA	<250	<500
	04-Jun-97	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0
	17-Feb-00	<10	<10	<10	<10	<10	NA	<10
	23-Oct-08	<250	<250	<250	<250	<250	NA	<250
	11-Mar-09	<100	<100	<100	<100	<100	NA	<100
Bldg1115_GT04	16-Jun-93	<25	<25	<25	NA	NA	33	<50
	04-Jun-97	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0
	17-Feb-00	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	07-Nov-08	<20	<20	<20	<20	<20	NA	<20
	11-Mar-09	<10	<10	<10	<10	4.7J	NA	<10
Bldg1115_GT05	16-Jun-93	4.0	9.0	<0.5	NA	NA	8	<1.0
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	17-Feb-00	11	4.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_GT06	16-Jun-93	<25	<25	<25	NA	NA	<25	<50
	17-Feb-00	<50	<50	<50	<50	<50	NA	<50
	23-Oct-08	<20	<20	<20	<20	<20	NA	<20
	11-Mar-09	<20	<20	<20	<20	21	NA	<20
Bldg1115_GT07	16-Jun-93	<0.5	<0.5	<0.5	NA	NA	<0.5	1
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	16-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-03	<1.0	36.6	<1.0	<1.0	1.9	NA	<1.0
	21-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Mar-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jan-06	ND	NA	NA	NA	ND	NA	NA
	09-Oct-06	ND	NA	NA	NA	ND	NA	NA
	21-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
26-Feb-08	<1.0	0.47J	<1.0	<1.0	<1.0	NA	<1.0	
21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1115_GT08	16-Jun-93	<0.5	100	<0.5	NA	NA	110	6
	16-Jun-93	<0.5	<0.5	<0.5	NA	NA	NA	5.0
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	16-Feb-00	<1.0	<1.0	<1.0	<1.0	4.0	NA	<1.0
	21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_GT09	16-Jun-93	<0.5	<0.5	<0.5	NA	NA	<0.5	<1.0
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	16-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-03	1.3	2.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-03	<1.0	1.3	<1.0	<1.0	<1.0	NA	<1.0
	24-Feb-04	<1.0	0.83J	<1.0	<1.0	<1.0	NA	<1.0
	24-Feb-04	<1.0	0.78J	<1.0	<1.0	<1.0	NA	<1.0
	27-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Aug-04	<1.0	0.53J	<1.0	<1.0	1.0	NA	<1.0
	22-Mar-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Mar-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Jan-06	ND	NA	NA	NA	ND	NA	NA
	02-Oct-06	ND	NA	NA	NA	ND	NA	NA
	26-Feb-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_GT10	16-Jun-93	<25	<25	<25	NA	NA	<25	<50
Bldg1115_MW01	05-Jun-97	8.9	<0.5	<0.5	<0.5	NA	NA	<0.5
	16-Feb-00	11	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-May-00	1.2	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Jan-01	1.3	0.27J	<1.0	<1.0	<1.0	NA	<1.0
	24-Jan-01	1.2	0.38J	<1.0	<1.0	<1.0	NA	<1.0
	29-Jul-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	02-Feb-02	1.7	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	05-Aug-02	1.6	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-03	1.3	2.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Feb-04	1.4	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Aug-04	1.1	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Aug-05	0.92J	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Aug-05	0.89J	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Jan-06	ND	NA	NA	NA	ND	NA	NA
03-Oct-06	ND	NA	NA	NA	ND	NA	NA	

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter							
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC	
Bldg1115_MW01—Cont.	21-Aug-07	0.89J	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	0.45J	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_MW02	20-Jul-95	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5
	15-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	25-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	24-Jan-01	<3.0	0.93J	<3.0	<3.0	<3.0	NA	NA	<3.0
	29-Jul-01	<1.0	0.21J	<1.0	<1.0	<1.0	NA	NA	<1.0
	02-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	05-Aug-02	1.3	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	19-Feb-03	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	<2.0
	19-Aug-03	<1.0	3.9	<1.0	<1.0	<1.0	NA	NA	<1.0
	25-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	19-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	18-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	20-Jan-06	ND	NA	NA	NA	ND	NA	NA	NA
	02-Oct-06	ND	NA	NA	NA	ND	NA	NA	NA
	23-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
23-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	
24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	
Bldg1115_MW03	20-Jul-95	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5
	15-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
Bldg1115_MW04	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<0.5
	15-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	25-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	25-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	23-Jan-01	<10	<10	<10	<10	<10	NA	NA	<10
	23-Jan-01	<10	<10	<10	<10	<10	NA	NA	<10
	27-Jul-01	<10	<10	<10	<10	<10	NA	NA	<10
	02-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	07-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	19-Feb-03	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	<2.0
	19-Aug-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	25-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	19-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	10-Mar-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	18-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0
	20-Jan-06	ND	NA	NA	NA	ND	NA	NA	NA
02-Oct-06	ND	NA	NA	NA	ND	NA	NA	NA	
22-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	
23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1115_MW05	16-Dec-93	<10	<10	<10	<10	NA	NA	<10
	23-Feb-00	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
Bldg1115_MW06	20-Jul-95	11.8	6.4	<0.5	<0.5	NA	NA	<0.5
	20-Jul-95	<0.5	4.1	<0.5	<0.5	NA	NA	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	22-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	6.0	5.5	<1.0	<1.0	1.3	NA	<1.0
Bldg1115_MW07	20-Jul-95	<25	<25	<25	<25	NA	NA	<25
	21-Aug-07	<100	<100	<100	<100	<100	NA	<100
	27-Feb-08	<50	<50	<50	<50	<50	NA	<50
	27-Oct-08	<50	<50	<50	<50	6.5J	NA	<50
	12-Mar-09	<50	<50	<50	<50	<50	NA	<50
Bldg1115_MW08	16-Dec-93	<0.5	<0.5	<0.5	<5.0	NA	NA	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	15-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_MW09	19-Jul-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	19-Jul-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	15-Feb-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	22-Aug-07	<1.0	0.6J	<1.0	<1.0	<1.0	NA	<1.0
	22-Aug-07	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	25-Feb-08	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	22-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
09-Apr-09	<10	<10	<10	<10	<10	NA	<10	
Bldg1115_MW10	16-Dec-93	2.6	1.5	<0.5	<5.0	NA	NA	<0.5
	04-Jun-97	5.0	1.3	<0.5	<0.5	NA	NA	<0.5
	17-Feb-00	3.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_MW11	16-Dec-93	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	15-Feb-00	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_MW12	16-Dec-93	<5.0	<25	<25	<25	NA	NA	<25
	23-Feb-00	<10	<10	<10	<10	<10	NA	<10
	23-Feb-00	<20	<20	<20	<20	<20	NA	<20
	23-Oct-08	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	11-Mar-09	<1.0	4.3	<1.0	0.97J	10.8	NA	<1.0
Bldg1115_MW13	04-Jun-97	<100	<100	<100	<100	NA	NA	<100
	17-Feb-00	<20	<20	<20	<20	<20	NA	<20
	25-May-00	<200	<200	<200	<200	<200	NA	<200
	25-Jan-01	<100	<100	<100	<100	<100	NA	<100

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1115_MW13—Cont.	30-Jul-01	<50	<50	<50	<50	6.5J	NA	<50
	30-Jul-01	<50	<50	<50	<50	<50	NA	<50
	02-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	02-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Aug-02	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	19-Feb-03	<20	<20	<20	<20	<20	NA	<20
	20-Aug-03	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	24-Feb-04	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	25-Aug-04	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	22-Mar-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Aug-05	<10	<10	<10	<10	<10	NA	<10
	23-Jan-06	ND	NA	NA	NA	ND	NA	NA
	03-Oct-06	ND	NA	NA	NA	ND	NA	NA
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Feb-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
10-Mar-09	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
Bldg1115_MW14	04-Jun-97	<100	160	<100	<100	NA	NA	<100
	15-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Aug-07	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	25-Feb-08	<2.0	3.9	<2.0	<2.0	3.1	NA	<2.0
	23-Oct-08	<10	6.1J	<10	<10	4.9J	NA	<10
	10-Mar-09	<1.0	4.3	<1.0	0.97J	10.8	NA	<1.0
Bldg1115_MW15	04-Jun-97	<10	<10	<10	310	NA	NA	<10
	23-Feb-00	<40	<40	<40	<40	<40	NA	<40
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_MW16	21-Jul-95	<500	<500	<500	<500	NA	NA	<500
	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_MW17	19-Jul-95	<2.5	7.2	<2.5	<2.5	NA	NA	<2.5
	04-Jun-97	<25	<25	<25	<25	NA	NA	<25
	15-Feb-00	<20	<20	<20	<20	<20	NA	<20
	23-Feb-00	<10	<10	<10	<10	<10	NA	<10
	25-May-00	<150	<150	<150	<150	<150	NA	<150
	23-Jan-01	<100	<100	<100	<100	<100	NA	<100
	27-Jul-01	<400	<400	<400	<400	<400	NA	<400
	02-Feb-02	<100	<100	<100	<100	<100	NA	<100
	07-Aug-02	<1.0	0.7J	<1.0	<1.0	4.3	NA	<1.0
	19-Feb-03	<50	<50	<50	<50	<50	NA	<50
	19-Aug-03	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	25-Feb-04	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
19-Aug-04	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0	

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1115_MW17—Cont.	10-Mar-05	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	18-Aug-05	<1.0	<1.0	<1.0	<1.0	0.52J	NA	<1.0
	20-Jan-06	ND	NA	NA	NA	ND	NA	NA
	02-Oct-06	ND	NA	NA	NA	ND	NA	NA
	22-Aug-07	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	25-Feb-08	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	23-Oct-08	<5.0	<5.0	<5.0	<5.0	3.0	NA	<5.0
	27-Oct-08	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	10-Mar-09	<1.0	1.2	20.4	<1.0	3.0	NA	18.8
Bldg1115_MW18	20-Jul-95	<25	<25	<25	<25	NA	NA	<25
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	22-Feb-00	<20	<20	<20	<20	<20	NA	<20
	26-May-00	<20	<20	<20	<20	<20	NA	<20
	22-Jan-01	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	29-Jul-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	29-Jul-01	<10	<10	<10	<10	<10	NA	<10
	02-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	02-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-03	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	02-Mar-04	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	22-Mar-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jan-06	ND	NA	NA	NA	ND	NA	NA
	22-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
26-Feb-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
Bldg1115_MW19	20-Jul-95	<25	<25	<25	<25	NA	NA	<25
	05-Jun-97	<10	<10	<10	<10	NA	NA	<10
	22-Feb-00	<20	<20	<20	<20	<20	NA	<20
	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1115_MW20	20-Jul-95	<50	<50	<50	<50	NA	NA	<50
	05-Jun-97	<250	<250	<250	<250	NA	NA	<250
	23-Feb-00	<40	<40	<40	<40	<40	NA	<40
	20-Aug-07	<200	<200	<200	<200	<200	NA	<200
	27-Feb-08	<50	<50	<50	<50	<50	NA	<50
	27-Oct-08	<100	<100	<100	<100	<100	NA	<100
	11-Mar-09	<100	<100	<100	<100	<100	NA	<100
	11-Mar-09	<250	<250	<250	<250	<250	NA	<250
Bldg1115_MW21	19-Jul-95	<0.5	11.2	<0.5	0.5	NA	NA	<0.5
	05-Jun-97	<0.5	18.7	<0.5	<0.5	NA	NA	<0.5
	15-Feb-00	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
	25-May-00	<25	<25	<25	<25	<25	NA	<25

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
Bldg1115_MW21—Cont.	24-Jan-01	<10	5.4J	<10	2.0J	1.7J	NA	<10
	29-Jul-01	<20	<20	<20	<20	<20	NA	<20
	02-Feb-02	<5.0	5.9	<5.0	<5.0	<5.0	NA	<5.0
	05-Aug-02	<1.0	4.1	<1.0	<1.0	0.52J	NA	<1.0
	19-Feb-03	<10	<10	<10	<10	<10	NA	<10
	19-Aug-03	0.53J	20.1	<1.0	<1.0	3.6	NA	<1.0
	25-Feb-04	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	19-Aug-04	<10	<10	<10	<10	<10	NA	<10
	10-Mar-05	0.56J	1.4	<1.0	<1.0	<1.0	NA	<1.0
	18-Aug-05	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	20-Jan-06	ND	NA	NA	NA	ND	NA	NA
	02-Oct-06	ND	NA	NA	NA	ND	NA	NA
	23-Aug-07	<1.0	0.56J	<1.0	<1.0	<1.0	NA	<1.0
	25-Feb-08	<1.0	1.3	<1.0	<1.0	<1.0	NA	<1.0
24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
Bldg1115_MW22	19-Jul-95	<0.5	7.2	<0.5	<0.5	NA	NA	<0.5
	04-Jun-97	<25	<25	<25	<25	NA	NA	<25
	15-Feb-00	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
	25-May-00	<10	<10	<10	<10	<10	NA	<10
	23-Jan-01	<10	<10	<10	<10	<10	NA	<10
	27-Jul-01	<40	<40	<40	<40	<40	NA	<40
	02-Feb-02	<1.0	0.75J	<1.0	<1.0	<1.0	NA	<1.0
	07-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	04-Sep-02	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	19-Feb-03	<20	<20	<20	<20	<20	NA	<20
	19-Aug-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Feb-04	<50	<50	<50	<50	6.5J	NA	<50
	19-Aug-04	<50	<50	<50	<50	6.5J	NA	<50
	10-Mar-05	<20	<20	<20	<20	<20	NA	<20
	22-Mar-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Aug-05	<50	<50	<50	<50	<50	NA	<50
	20-Jan-06	ND	NA	NA	NA	ND	NA	NA
	02-Oct-06	ND	NA	NA	NA	ND	NA	NA
	22-Aug-07	<10	<10	<10	<10	<10	NA	<10
25-Feb-08	<1.0	0.87J	<2.0	<2.0	<2.0	NA	<2.0	
23-Oct-08	<5.0	<5.0	<5.0	<5.0	3.0	NA	<5.0	
10-Mar-09	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
Bldg1115_MW23	20-Jul-95	<25	<25	<25	<25	NA	NA	<25
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	22-Feb-00	<40	<40	<40	<40	<40	NA	<40
	26-May-00	<25	<25	<25	<25	<25	NA	<25
	22-Jan-01	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
Bldg1115_MW23—Cont.	29-Jul-01	<1.0	0.26J	<1.0	<1.0	<1.0	NA	<1.0
	02-Feb-02	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	18-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-03	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	24-Feb-04	<20	0.83J	<20	<20	<20	NA	<20
	18-Aug-04	<20	<20	<20	<20	<20	NA	<20
	22-Mar-05	<50	<50	<50	<50	<50	NA	<50
	17-Aug-05	<100	<100	<100	<100	<100	NA	<100
	23-Jan-06	ND	NA	NA	NA	ND	NA	NA
	02-Oct-06	ND	NA	NA	NA	ND	NA	NA
	22-Aug-07	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
21-Oct-08	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0	
Bldg1115_MW24	19-Jul-95	<0.5	3.0	<0.5	<0.5	NA	NA	<0.5
	05-Jun-97	<10	<10	<10	<10	NA	NA	<10
	15-Feb-00	<5.0	21	<5.0	<5.0	<5.0	NA	<5.0
	15-Feb-00	<5.0	21	<5.0	<5.0	<5.0	NA	<5.0
	25-May-00	<40	<40	<40	<40	<40	NA	<40
	24-Jan-01	<40	17J	<40	<40	8.8J	NA	<40
	29-Jul-01	<50	<50	<50	<50	6.5J	NA	<50
	02-Feb-02	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	05-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Feb-03	<50	<50	<50	<50	<50	NA	<50
	19-Aug-03	<50	<50	<50	<50	<50	NA	<50
	25-Feb-04	<50	<50	<50	<50	6.5J	NA	<50
	19-Aug-04	<50	<50	<50	<50	6.5J	NA	<50
	10-Mar-05	<20	<20	<20	<20	<20	NA	<20
	18-Aug-05	<50	<50	<50	<50	<50	NA	<50
	20-Jan-06	ND	NA	NA	NA	ND	NA	NA
	02-Oct-06	ND	NA	NA	NA	ND	NA	NA
23-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
25-Feb-08	<1.0	1.4	<1.0	<1.0	<1.0	NA	<1.0	
24-Oct-08	<1.0	0.67J	<1.0	<1.0	<1.0	NA	<1.0	
Bldg1115_MW25	24-Jul-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	22-Feb-00	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
	25-May-00	<10	<10	<10	<10	<10	NA	<10
	24-Jan-01	<15	<15	<15	<15	<15	NA	<15
	29-Jul-01	<1.0	0.24J	0.74J	<1.0	0.59J	NA	<1.0
	02-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Aug-02	<20	<20	<20	<20	<20	NA	<20
	04-Sep-02	<20	<20	<20	<20	<20	NA	<20
19-Feb-03	<50	<50	<50	<50	<50	NA	<50	

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1115_MW25—Cont.	22-Aug-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Feb-04	<50	<50	<50	<50	6.5J	NA	<50
	25-Aug-04	<50	<50	<50	<50	6.5J	NA	<50
	22-Mar-05	<50	<50	<50	<50	<50	NA	<50
	17-Aug-05	<50	<50	<50	<50	<50	NA	<50
	23-Jan-06	ND	NA	NA	NA	ND	NA	NA
	03-Oct-06	ND	NA	NA	NA	ND	NA	NA
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Feb-08	<1.0	0.44J	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1310_MW01	15-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Oct-93	<1.0	<1.0	<1.0	NA	NA	NA	NA
Bldg1310_MW02	15-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Oct-93	<1.0	<1.0	<1.0	NA	NA	NA	<5.0
Bldg1310_MW03	15-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	16-Oct-09	NA	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg1450_GP01	23-Jul-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_GP02	23-Jul-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_GP03	23-Jul-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_GP04	23-Jul-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_GP05	23-Jul-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_GP06	17-Jul-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_GP10	17-Jul-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_HP01	22-Oct-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<1.29
Bldg1450_HP02	22-Oct-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_HP03	22-Oct-96	<0.08	1.11	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_HP04	22-Oct-96	<0.08	0.07	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_MW01	22-Aug-96	21.6	<4.0	<17	<18	<3.0	NA	<29
Bldg1450_MW02	22-Aug-96	<0.4	<0.2	<0.85	<0.9	<0.15	NA	<1.45
Bldg1450_MW03	22-Aug-96	<80	NA	<170	<180	<30	NA	<290
Bldg1450_MW04	31-Oct-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1450_MW05	31-Oct-96	<8.0	<4.0	<17	<18	<3.0	NA	<29
	31-Oct-96	<8.0	<4.0	<17	<18	<3.0	NA	<29
Bldg1450_MW06	31-Oct-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1502_MW01 (new)	04-Dec-01	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0
	04-Dec-01	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0
Bldg1502_MW01 (old)	14-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	ND	<1.38
Bldg1502_MW02 (new)	04-Dec-01	<1.0	<1.0	<1.0	<1.0	<1.0	ND	<1.0
Bldg1502_MW02 (old)	14-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	ND	<1.38
Bldg1502_MW03	14-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	ND	<1.38
Bldg1502_MW04	14-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	ND	<1.38

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1601_DP01	07-Oct-96	<0.5	1,070	34.1	7.6	1,040	NA	<0.5
Bldg1601_DP02	07-Oct-96	<0.5	163.5	3.0	0.8	115	NA	<0.5
Bldg1601_DP03	07-Oct-96	<0.5	239	47	<0.5	45.9	NA	<0.5
Bldg1601_DP04	07-Oct-96	<0.5	50.1	1.2	<0.5	3.9	NA	<0.5
Bldg1601_DP05	07-Oct-96	0.5	23.8	0.6	<0.5	10.5	NA	<0.5
Bldg1601_DP06	07-Oct-96	<0.5	406	4.0	1.9	467	NA	<0.5
Bldg1601_DP07	07-Oct-96	<0.5	605	2.5	1.3	533	NA	<0.5
Bldg1601_DP08	07-Oct-96	1.2	148	1.8	0.8	272	NA	<0.5
Bldg1601_DP09	07-Oct-96	<0.5	16.4	<0.5	<0.5	1.0	NA	<0.5
Bldg1601_DP10	07-Oct-96	15.3	805	<0.5	0.9	55.2	NA	<0.5
Bldg1601_DP11	07-Oct-96	7.9	124.5	<0.5	<0.5	2.3	NA	<0.5
Bldg1601_DP12	07-Oct-96	<0.5	123.5	<0.5	<0.5	12.5	NA	<0.5
Bldg1601_DP13	07-Oct-96	<0.5	6.7	<0.5	<0.5	1.0	NA	<0.5
Bldg1601_DP14	07-Oct-96	<0.5	390	4.7	1.1	174	NA	<0.5
Bldg1601_DP15	07-Oct-96	<0.5	157.5	1.1	<0.5	22	NA	<0.5
Bldg1601_DP16	07-Oct-96	<0.5	5.0	<0.5	<0.5	1.3	NA	<0.5
Bldg1607_MW01	18-Oct-93	<1.0	<1.0	<1.0	NA	NA	NA	<5.0
	20-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1607_MW02	18-Oct-93	<1.0	<1.0	<1.0	NA	NA	NA	<5.0
Bldg1607_MW02	20-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1607_MW03	18-Oct-93	<1.0	<1.0	<1.0	NA	NA	NA	<5.0
	20-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1607_MW07	16-Oct-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg1607_MW08	16-Oct-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg1613_HP01	29-Mar-95	<0.5	29.2	<0.5	0.9	NA	NA	<0.5
Bldg1613_HP02	29-Mar-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP03	30-Mar-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP04	06-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP05	06-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP06	02-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP07	05-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP08	05-Apr-95	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0
Bldg1613_HP09	05-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP10	06-Apr-95	<0.5	<0.5	1.1	0.5	NA	NA	<0.5
Bldg1613_HP11	05-Apr-95	<25	<25	<25	<25	NA	NA	<25
Bldg1613_HP12	05-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP13	05-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP14	05-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_HP15	05-Apr-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
Bldg1613_MW01	03-May-95	NA	ND	ND	NA	ND	NA	NA
	21-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1613_MW01— Cont.	24-Sep-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Sep-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW02	03-May-95	NA	ND	ND	NA	ND	NA	NA
	21-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Sep-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Sep-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW03	03-May-95	NA	ND	ND	NA	ND	NA	NA
	04-May-95	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg1613_MW04	03-May-95	NA	ND	ND	NA	ND	NA	NA
	21-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	01-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW05	03-May-95	NA	ND	ND	NA	ND	NA	NA
	21-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Sep-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Sep-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW06	03-May-95	NA	ND	ND	NA	ND	NA	NA
	21-Nov-99	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-May-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Sep-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Jun-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Dec-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jun-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Dec-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Jun-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Sep-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	06-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
07-Apr-06	<0.784	<0.442	<0.379	<0.316	<0.887	NA	<0.273	
Bldg1613_MW07	03-May-95	NA	ND	ND	NA	ND	NA	NA
	30-Sep-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW08	03-May-95	NA	ND	ND	NA	ND	NA	NA
	04-May-95	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	01-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW09	03-May-95	NA	31.6	ND	NA	1.1	NA	NA
	04-May-95	<0.5	31.6	<0.5	1.1	<0.5	NA	<0.5
	23-Jul-97	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	06-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW10	04-May-95	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	21-Nov-99	<100	<100	<100	<100	<100	NA	<100

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1613_MW10— Cont.	23-May-00	<80	<80	<80	<80	<80	NA	<80
	23-May-00	<10	<10	<10	<10	<10	NA	<10
	24-Sep-00	<50	<50	<50	<50	<50	NA	<50
	30-Jun-01	<50	<50	<50	<50	<50	NA	<50
	30-Jun-01	<50	<50	<50	<50	<50	NA	<50
	20-Dec-01	<1.0	14.2	<1.0	<1.0	1.8	NA	<1.0
	20-Dec-01	<10	15.2	<10	<10	<10	NA	<10
	26-Jun-02	<20	<20	<20	<20	<20	NA	<20
	26-Jun-02	<10	<10	<10	<10	<10	NA	<10
	17-Dec-02	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	17-Dec-02	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	24-Jun-04	<1.0	2.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Jun-04	<1.0	1.5	<1.0	<1.0	<1.0	NA	<1.0
	08-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Apr-06	<0.784	<0.442	<0.379	<0.316	<0.887	NA	<0.273
26-Jul-07	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116	
Bldg1613_MW11	04-May-95	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	22-Nov-99	<2.0	<2.0	<2.0	<2.0	<1.0	NA	<2.0
	30-Jun-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Dec-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Jun-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Dec-02	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Jun-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	06-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	06-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	07-Apr-06	<0.784	<0.442	<0.379	<0.316	<0.887	NA	<0.273
26-Jul-07	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116	
Bldg1613_MW12	03-May-95	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	23-Jul-97	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	06-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW13	04-May-95	<0.5	36.9	<0.5	1.2	<0.5	NA	<0.5
	29-Sep-03	NA	54	NA	6.7	0.55	NA	NA
	30-Sep-04	<1.0	15.6	<1.0	<2.0	0.64J	NA	<1.0
Bldg1613_MW14	03-May-95	<0.5	78.9	0.7	5.6	<0.5	NA	<0.5
	29-Sep-03	NA	35	NA	8.1	0.84	NA	NA
	08-Oct-04	<1.0	32.5	<1.0	0.76J	9.0	NA	<1.0
Bldg1613_MW15	03-May-95	<0.5	15.7	<0.5	<0.5	<0.5	NA	<0.5
	29-Sep-03	NA	21	NA	38	<0.27	NA	NA
	01-Oct-04	<1.0	16.8	<1.0	0.76J	36.7	NA	<1.0
	26-Jul-07	<0.167	3.98	<0.125	0.195	19.9	NA	<0.116

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
Bldg1613_MW16	04-May-95	<0.5	1.3	<0.5	<0.5	<0.5	NA	<0.5
	30-Jun-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Dec-01	<1.0	85.6	<1.0	2.4	20.2	NA	<1.0
	26-Jun-02	<1.0	51.8B	<1.0	<1.0	10.1	NA	<1.0
	17-Dec-02	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Jun-04	<1.0	37.8	<1.0	<1.0	8.7	NA	<1.0
	08-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1613_MW17	22-Nov-99	<50	<50	<50	<50	<50	NA	<50
	07-Oct-04	<10	<10	<10	<10	<10	NA	<10
	26-Jul-07	<0.668	<0.46	<0.5	<0.468	<0.84	NA	<0.464
Bldg1613_MW18	23-Nov-99	<40	<40	<40	<40	<40	NA	<40
	07-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Jul-07	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116
Bldg1613_MW19	21-Nov-99	<20	<20	<20	<20	<20	NA	<20
	23-May-00	<5.0	<5.0	<5.0	<1.0	<5.0	NA	<80
	24-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	07-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Jul-07	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116
Bldg1613_MW20	30-Jun-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Dec-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jun-02	<1.0	2.1	<1.0	<1.0	<1.0	NA	<1.0
	17-Dec-02	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Jun-04	1.4	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	04-Oct-04	1.3	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Jul-07	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116
Bldg1613_MW21	30-Jun-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Dec-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Jun-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Dec-02	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Jun-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	04-Oct-04	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	26-Jul-07	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116
Bldg1613_MW22	30-Jun-01	<100	<100	<100	<100	<100	NA	<100
	20-Dec-01	<10	<10	<10	<10	<10	NA	<10
	26-Jun-02	<10	<10	<10	<10	<10	NA	<10
	17-Dec-02	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Jun-04	<50	<50	<50	<50	<50	NA	<50
	04-Oct-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	26-Jul-07	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116
Bldg1817_MW01	8/26/1997	3,480	320	<0.5	1.8	NA	NA	<0.5
Bldg1880_GP01	25-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP02	26-Jan-96	0.15	ND	NA	NA	ND	NA	NA

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
Bldg1880_GP03	26-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP04	24-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP05	24-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP06	25-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP07	26-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP08	25-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP09	25-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP10	25-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP11	26-Jan-96	ND	ND	NA	NA	ND	NA	NA
Bldg1880_GP12	25-Jan-96	ND	0.13	NA	NA	0.07	NA	NA
Bldg1880_HP13	27-Feb-96	<0.08	4.97	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_HP14	27-Feb-96	0.114	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_HP15	27-Feb-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_MW01	14-Mar-96	0.113	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_MW02	14-Mar-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_MW03	14-Mar-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_MW04	14-Mar-96	<0.08	0.406	<0.17	<0.18	0.152	NA	<0.29
Bldg1880_MW05	14-Mar-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_MW06	14-Mar-96	0.102	0.042	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_MW07	14-Mar-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_MW07	14-Mar-96	0.417	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1880_TW08	08-Mar-96	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
Bldg1919-1_MW01	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1919-1_MW02	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1919-1_MW03	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
Bldg1919-2_MW01	25-Sep-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
Bldg1919-2_MW01	25-Sep-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA
Bldg1932_MW01	6/23/1994	<1.0	<1.0	NA	NA	<1.0	NA	<1.0
Bldg1932_MW02	6/23/1994	<1.0	<1.0	NA	NA	<1.0	NA	<1.0
Bldg1932_MW03	6/23/1994	<1.0	<1.0	NA	NA	<1.0	NA	<1.0
BldgFC40_TW01	25-Mar-03	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgFC102_MW02 (new)	21-Oct-93	<1.0	<1.0	<1.0	NA	NA	NA	<5.0
BldgFC102_MW03 (new)	21-Oct-93	<1.0	<1.0	<1.0	NA	NA	NA	<5.0
BldgFC201E_MW05	23-Feb-94	<0.4	<0.9	<0.7	<0.7	<0.8	NA	<0.9
BldgFC201E_MW06	17-Feb-94	<5.0	<3.0	<5.0	NA	NA	NA	<10
BldgFC201E_MW06	23-Feb-94	1.8	<0.9	<0.7	<0.7	<0.8	NA	<0.9
BldgFC201E_MW08	18-Feb-94	<5.0	<3.0	<5.0	NA	NA	NA	<10
BldgFC201E_MW08	23-Feb-94	<1.4	<1.9	<1.7	<1.7	<1.8	NA	<1.9
BldgFC201E_MW10	19-Feb-94	<0.4	<0.9	<0.7	NA	NA	NA	<0.9

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
BldgFC201E_MW12	24-Mar-94	<0.4	<0.9	<0.7	<0.7	<0.8	NA	<0.9
BldgFC201E_MW13	24-Mar-94	<1.4	<1.9	<1.7	<1.7	<1.8	NA	<1.9
BldgFC201E_MW14	24-Mar-94	<2.4	<2.9	<2.7	<2.7	<2.8	NA	<2.9
BldgFC201E_MW15	24-Mar-94	<3.4	<3.9	<3.7	<3.7	<3.8	NA	<3.9
BldgFC201E_MW16	24-Mar-94	<4.4	<4.9	<4.7	<4.7	<4.8	NA	<4.9
BldgFC251_HP01	03-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_HP02	03-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_HP03	03-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_HP04	04-Apr-95	<0.5	<0.5	0.7	<0.5	NA	NA	<0.5
	04-Apr-95	<0.5	<0.5	0.8	<0.5	NA	NA	<0.5
BldgFC251_HP05	04-Apr-95	<0.5	<0.5	0.7	<0.5	NA	NA	<0.5
BldgFC251_MW01 (new)	26-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_MW01 (old)	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
BldgFC251_MW02 (new)	26-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_MW02 (old)	09-Aug-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
BldgFC251_MW03 (new)	26-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_MW03 (old)	09-Aug-94	<100	<100	<100	<100	<100	NA	<1.0
BldgFC251_MW04	26-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_MW05	26-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_MW06	26-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_MW07	26-Apr-95	<0.5	<5.0	<0.5	<0.5	NA	NA	<0.5
BldgFC251_MW08	26-Apr-95	<25	<25	<5.0	<25	NA	NA	<25
BldgFC263_MW01	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW02	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW03	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW04	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW05	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW06	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW07	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW08	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW09	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW10	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW11	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW12	14-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW13	16-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW14	16-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW15	16-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5
BldgFC263_MW16	16-Mar-95	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
BldgH19_DP01	20-Feb-97	0.115	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP02	20-Feb-97	0.104	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP03	20-Feb-97	0.103	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP04	20-Feb-97	1.02	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP05	20-Feb-97	0.189	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP06	20-Feb-97	0.153	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP07	20-Feb-97	0.225	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP08	20-Feb-97	0.133	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP09	20-Feb-97	0.261	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP10	20-Feb-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP11	21-Feb-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP12	21-Feb-97	0.266	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP16	21-Feb-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP18	21-Feb-97	1.86	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP19	21-Feb-97	0.237	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_DP20	21-Feb-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_MW01	08-Mar-95	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	11-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW02	08-Mar-95	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Feb-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	11-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	11-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW03	08-Mar-95	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	11-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW04	08-Mar-95	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Feb-97	<0.08	<0.04	<0.17	<0.02	<0.003	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW05	08-Mar-95	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Feb-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	11-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	11-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW06	08-Mar-95	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Feb-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW07	08-Mar-95	<10	<10	<10	<10	<10	NA	<10
	11-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
BldgH19_MW07—Cont.	11-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW08	27-Mar-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
BldgH19_MW09	10-Apr-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW10	27-Mar-97	0.616	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW11	27-Mar-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW12	27-Mar-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW13	19-Mar-97	<5.0	<5.0	<5.0	NA	NA	NA	<10
	10-Apr-97	0.188	21.1	<0.17	2.22	7.31	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH19_MW14	27-Mar-97	<0.08	<0.04	<0.17	<0.18	<0.003	NA	<0.29
	24-Nov-04	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH28_MW02	16-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH28_MW06	17-Oct-00	<2.5	<2.5	<2.5	<2.5	<2.5	NA	<2.5
	12-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH28_MW08	17-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	12-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH28_MW09	17-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	12-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH30_MW01	01-Aug-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH30_MW02	12-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH30_MW09	18-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	12-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgH30_MW12	16-Oct-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	12-Apr-01	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgLCH4015_MW01	03-Nov-94	<500	<500	<500	<500	<500	NA	<500
BldgLCH4015_MW02	03-Nov-94	<500	<500	<500	<500	<500	NA	<500
BldgLCH4015_MW03	03-Nov-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
BldgLCH4015_MW04	03-Nov-94	<50	<50	<50	<50	<50	NA	<50
BldgLCH4015_MW05	03-Nov-94	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
BldgLCH4022_MW08	18-Jan-94	<5.0	<5.0	<5.0	NA	NA	NA	<10
BldgLCH4022_MW09	18-Jan-94	<6.0	<6.0	<6.0	NA	NA	NA	<11
BldgNH118_MW01	8/26/1997	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
BldgS1856_DP01	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP02	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP03	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP04	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP05	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
BldgS1856_DP06	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP07	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP08	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP09	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP10	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP11	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP12	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP13	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP14	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP15	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DP16	03-Apr-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_DMW13	15-Aug-00	<0.5	<0.5	<0.5	<0.5	0.6	NA	<0.5
BldgS1856_MW01	12-Jun-95	<0.38	<0.22	<1.0	<0.91	8.48	NA	2.07
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_MW02	12-Jun-95	<0.38	<0.22	<1.0	<0.91	19.6	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	15-Aug-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_MW03	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
BldgS1856_MW03	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_MW04	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	15-Aug-00	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_MW05	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_MW06	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	2.3	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	15-Aug-00	<0.5	<0.5	<0.5	<0.5	0.6	NA	<0.5
BldgS1856_MW07	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	29-Jan-98	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgS1856_MW08	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	15-Aug-00	<0.5	<0.5	<0.5	<0.5	0.6	NA	<0.5
BldgS1856_MW09	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
BldgS1856_MW10	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	15-Aug-00	<0.5	<0.5	<0.5	<0.5	0.6	NA	<0.5
BldgS1856_MW11	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
BldgS1856_MW12	12-Jun-95	<0.38	<0.22	<1.0	<0.91	<0.91	NA	<1.38
	12-Mar-97	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	28-Jan-98	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
	15-Aug-00	<0.5	<0.5	<0.5	<0.5	0.6	NA	<0.5
	15-Aug-00	<0.5	<0.5	<0.5	<0.5	0.6	NA	<0.5
BldgS2633_MW01(old)	8/2/1996	<250	<250	<250	<250	NA	NA	<250
BldgS2633_MW01(new)	2/2/1998	<25	<25	<25	<25	<25	NA	<25
BldgS2633_MW02	8/2/1996	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/2/1998	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
BldgS2633_MW03	8/2/1996	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/2/1998	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
BldgS2633_MW04	2/2/1998	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
BldgS2633_MW05	2/2/1998	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
BldgS2633_MW06DW	2/2/1998	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
BldgSLCH4019_MW01	19-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	19-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Apr-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgSLCH4019_MW02	19-Oct-93	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Apr-95	<8.0	<4.0	<17	<18	<3.0	NA	<29
BldgSLCH4019_MW03	19-Oct-93	1,150	<500	<500	<500	<500	NA	<500
	12-Apr-95	<8.0	<4.0	<17	<18	<3.0	NA	<29
BldgSLCH4019_MW04	02-May-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgSLCH4019_MW05	02-May-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgSLCH4019_MW06	02-May-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgSLCH4019_MW07	02-May-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgSLCH4019_MW08	02-May-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgSLCH4019_MW09	02-May-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
BldgSLCH4019_MW10	02-May-95	<0.08	<0.04	<0.17	<0.18	<0.03	NA	<0.29
HPFF_DPT22	07-Jul-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_DPT23	07-Jul-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_DPT29	20-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP01	20-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP02	20-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP03	23-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP04	23-Oct-95	<500	<500	<500	<500	NA	NA	<500
HPFF_HP05	24-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP06	24-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP07	24-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP08	25-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP09	25-Oct-95	<50	<50	<50	<50	NA	NA	<50
HPFF_HP10	25-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_HP11	25-Oct-95	<12.5	<12.5	<12.5	<12.5	NA	NA	<12.5
HPFF_HP12	27-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP13	27-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP14	27-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP15	31-Oct-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP16	02-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP17	02-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP18	02-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP19	20-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_HP20	20-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
HPFF_MW01	30-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	16-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Jul-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	01-Feb-01	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	13-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Aug-03	<1.0	0.9J	<1.0	<1.0	<1.0	NA	<1.0
	13-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	05-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	04-Oct-06	ND	NA	NA	NA	ND	NA	NA
	23-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
23-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
21-Oct-08	<1.0	0.55J	<1.0	<1.0	0.67J	NA	<1.0	
HPFF_MW02	30-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	04-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	15-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Oct-08	<500	<500	<500	<500	<500	NA	<500
	21-Oct-08	<1.0	0.55J	<1.0	<1.0	0.67J	NA	<1.0
HPFF_MW03	30-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	17-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	14-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW04	30-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_MW04—Cont	16-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	18-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW05	30-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	17-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	14-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-03	<1.0	4.3	<1.0	<1.0	<1.0	NA	<1.0
	13-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	05-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	06-Oct-06	ND	NA	NA	NA	ND	NA	NA
	16-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Feb-08	<1.0	0.39J	<1.0	<1.0	1.8	NA	<1.0
27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
HPFF_MW06	30-Nov-95	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	18-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	14-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Feb-08	<1.0	0.39J	<1.0	<1.0	1.8	NA	<1.0
	20-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW07	30-Nov-95	<10	<10	<10	<10	NA	NA	<10
	05-Jun-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	22-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Jul-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Jul-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Jul-01	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	09-Feb-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	12-Aug-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Feb-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Aug-03	<1.0	0.9J	<1.0	<1.0	<1.0	NA	<1.0
	13-Feb-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	05-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	04-Oct-06	ND	NA	NA	NA	ND	NA	NA
23-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
26-Feb-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_MW08	30-Nov-95	<12.5	<12.5	<12.5	<12.5	NA	NA	<12.5
	05-Jun-97	<10	<10	<10	<10	NA	NA	<10
	22-Feb-00	<20	<20	<20	<20	<20	NA	<20
	24-Jul-00	<100	<100	<100	<100	<100	NA	<100
	31-Jan-01	<100	<100	<100	<100	<100	NA	<100
	22-Jul-01	<500	<500	<500	<500	<500	NA	<500
	09-Feb-02	<250	<250	<250	<250	<250	NA	<250
	13-Aug-02	<250	<250	<250	<250	<250	NA	<250
	21-Feb-03	<50	<50	<50	<50	<50	NA	<50
	25-Aug-03	<100	<100	<100	<100	<100	NA	<100
	20-Feb-04	<200	<200	<200	<200	<200	NA	<200
	31-Aug-04	<200	<200	<200	<200	<200	NA	<200
	13-Apr-05	<100	<100	<100	<100	<100	NA	<100
	31-Aug-05	<100	<100	<100	<100	<100	NA	<100
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	06-Oct-06	ND	NA	NA	NA	ND	NA	NA
	15-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Feb-08	<50	<50	<50	<50	<50	NA	<50
	20-Oct-08	<100	<100	<100	<100	<100	NA	<100
	17-Mar-09	<100	<100	<100	<100	<100	NA	<100
HPFF_MW09	30-Nov-95	<12.5	<12.5	<12.5	<12.5	NA	NA	<12.5
	05-Jun-97	<10	<10	<10	<10	NA	NA	<10
	18-Feb-00	<25	<25	<25	<25	<25	NA	<25
	14-Aug-02	<250	<250	<250	<250	<250	NA	<250
	21-Feb-03	<50	<50	<50	<50	<50	NA	<50
	22-Aug-03	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	13-Feb-04	<10	<10	<10	<10	<10	NA	<10
	27-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	05-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Aug-05	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	06-Oct-06	ND	NA	NA	NA	ND	NA	NA
	16-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Feb-08	<1.0	<1.0	<1.0	<1.0	1.8	NA	<1.0
	27-Feb-08	<1.0	<1.0	<1.0	<1.0	1.8	NA	<1.0
27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
HPFF_MW10	21-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	18-Feb-00	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	27-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	16-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	28-Feb-08	<1.0	0.39J	<1.0	<1.0	1.8	NA	<1.0
	20-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_MW11	21-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	18-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	13-Aug-02	<20	<20	<20	<20	<20	NA	<20
	21-Feb-03	<1.0	<1.0	<1.0	<1.0	0.51J	NA	<1.0
	25-Aug-03	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	20-Feb-04	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	31-Aug-04	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	13-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Aug-05	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Aug-05	ND	NA	NA	NA	ND	NA	NA
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	15-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
20-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
HPFF_MW12	21-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	23-Feb-00	<4.0	27	<4.0	<4.0	<4.0	NA	<4.0
	23-Feb-00	<5.0	27	<5.0	<5.0	<5.0	NA	<5.0
	20-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Feb-08	<1.0	<1.0	<1.0	<1.0	1.8	NA	<1.0
	21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Mar-09	<50	<50	<50	<50	35.8	NA	<50
	17-Mar-09	<1.0	<1.0	<1.0	<1.0	36.6	NA	<1.0
HPFF_MW13	21-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	22-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW14	17-Feb-00	<10	<10	<10	<10	<10	NA	<10
	21-Oct-08	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	12-Mar-09	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
HPFF_MW15	20-Aug-97	<500	<500	<500	<500	NA	NA	<500
	16-Aug-07	<500	<500	<500	<500	<500	NA	<500
	20-Oct-08	<500	<500	<500	<500	<500	NA	<500
HPFF_MW16	20-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	16-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	11-Mar-09	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW17	20-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	16-Feb-00	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	09-Feb-02	<250	<250	<250	<250	<250	NA	<250
	20-Oct-08	<500	<500	<500	<500	<500	NA	<500
	12-Mar-09	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW18	20-Aug-97	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	09-Feb-02	<500	<500	<500	<500	<500	NA	<500
	14-Aug-02	<500	<500	<500	<500	<500	NA	<500

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_MW19	20-Aug-97	<25	<25	<25	<25	NA	NA	<25
	23-Feb-00	<40	<40	<40	<40	<40	NA	<40
	26-Jul-00	<200	<200	<200	<200	<200	NA	<200
	31-Jan-01	<250	<250	<250	<250	<250	NA	<250
	24-Jul-01	<1,000	<1,000	<1,000	<1,000	<1,000	NA	<1,000
	09-Feb-02	<250	<250	<250	<250	<250	NA	<250
	13-Aug-02	<500	<500	<500	<500	<500	NA	<500
	18-Feb-03	<250	<250	<250	<250	<250	NA	<250
	27-Aug-03	<100	<100	<100	<100	<100	NA	<100
	14-Feb-04	<100	<100	<100	<100	<100	NA	<100
	18-Apr-05	<100	<100	<100	<100	<100	NA	<100
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	06-Oct-06	ND	NA	NA	NA	ND	NA	NA
	20-Aug-07	<200	<200	<200	<200	<200	NA	<200
	20-Aug-07	<200	<200	<200	<200	<200	NA	<200
27-Feb-08	<50	<50	<50	<50	<50	NA	<50	
20-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
27-Oct-08	<100	<100	<100	<100	<100	NA	<100	
13-Mar-09	<100	<100	<100	<100	<100	NA	<100	
HPFF_MW20	20-Aug-97	<10	<10	<10	<10	NA	NA	<10
	18-Feb-00	<50	<50	<50	<50	<50	NA	<50
	18-Feb-00	<25	<25	<25	<25	<25	NA	<25
	20-Jul-00	<150	<150	<150	<150	<150	NA	<150
	01-Feb-01	<100	<100	<100	<100	<100	NA	<100
	22-Jul-01	<400	<400	<400	<400	<400	NA	<400
	09-Feb-02	<250	<250	<250	<250	<250	NA	<250
	14-Aug-02	<50	<50	<50	<50	6.5J	NA	<50
	18-Feb-03	<200	<200	<200	<200	<200	NA	<200
	27-Aug-03	<100	<100	<100	<100	<100	NA	<100
	20-Feb-04	<100	<100	<100	<100	<100	NA	<100
	18-Apr-05	<100	<100	<100	<100	<100	NA	<100
	31-Aug-05	<20	<20	<20	<20	<20	NA	<20
	24-Jan-06	ND	NA	NA	NA	ND	NA	NA
	04-Oct-06	ND	NA	NA	NA	ND	NA	NA
14-Aug-07	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	
27-Feb-08	<100	<100	<100	<100	<100	NA	<100	
20-Oct-08	<500	<500	<500	<500	<500	NA	<500	
19-Mar-09	<100	<100	<100	<100	<100	NA	<100	
HPFF_MW21	28-Jan-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW22	28-Jan-00	<50	<50	<50	<50	<50	NA	<50
	30-Oct-08	<10	<10	<10	<10	<10	NA	<10
	12-Mar-09	<50	<50	<50	<50	<50	NA	<50

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
HPFF_MW23	28-Jan-00	<50	<50	<50	<50	<50	NA	<50
	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW24	31-Jan-00	<10	<10	<10	<10	<10	NA	<10
	03-Nov-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Mar-09	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW25	28-Jan-00	<20	<20	<20	<20	<20	NA	<20
HPFF_MW26	31-Jan-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW27	02-Feb-00	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
HPFF_MW28	28-Jan-00	<50	<50	<50	<50	<50	NA	<50
	27-Oct-08	<200	<200	<200	<200	<200	NA	<200
	12-Mar-09	<250	<250	<250	<250	<250	NA	<250
HPFF_MW29	28-Jan-00	<100	<100	<100	<100	<100	NA	<100
	30-Oct-08	<100	<100	<100	<100	<100	NA	<100
	12-Mar-09	<200	<200	<200	<200	<200	NA	<200
HPFF_MW30	28-Jan-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Oct-08	<10	<10	<10	<10	<10	NA	<10
	13-Mar-09	<10	<10	<10	<10	<10	NA	<10
HPFF_MW31	31-Jan-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW32	31-Jan-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW33	31-Jan-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW34	31-Jan-00	<1.0	15	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	<1.0	0.46J	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW35	01-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	<1.0	1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW36	01-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW37	01-Feb-00	<1.0	13	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	0.84J	2.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW38	01-Feb-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW39	07-Mar-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-07	<1.0	4.4	<1.0	0.43J	2.9	NA	<1.0
	25-Feb-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW40	07-Mar-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	28-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW41	07-Mar-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	28-Oct-08	<20	<20	<20	<20	<20	NA	<20
	19-Mar-09	<10	<10	<10	<10	<10	NA	<10

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_MW42	07-Mar-00	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	03-Nov-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	13-Mar-09	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW43	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-07	<1.0	0.83J	<1.0	0.43J	2.9	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW44	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<4.0	NA	<1.0
	25-Aug-07	<1.0	0.86J	<1.0	0.43J	2.9	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW45	26-Mar-02	<5.0	110	<5.0	<5.0	<40	NA	<5.0
	24-Oct-08	<10	39.5	<10	<10	25	NA	<10
	10-Mar-09	<10	56.6	<10	<10	33.4	NA	<10
HPFF_MW46	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW47	26-Mar-02	<25	330	<25	<25	170	NA	<25
	25-Aug-07	10.6J	249	<20	<20	78.8	NA	<20
	25-Feb-08	5.9J	190	<10	<10	64.5	NA	<10
	24-Oct-08	10.9	223	<10	<10	56.3	NA	<10
	10-Mar-09	8.5J	179	<20	<20	45.8	NA	<20
HPFF_MW48	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW49	26-Mar-02	<8.0	<8.0	<8.0	<8.0	130	NA	<8.0
	24-Oct-08	<1.0	1.4	<1.0	<1.0	3.4	NA	<1.0
HPFF_MW50	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW51	25-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-07	<1.0	2.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Feb-08	<100	<100	<100	<100	<100	NA	<100
	21-Apr-08	<1.0	0.39J	<1.0	<1.0	1.8	NA	<1.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW52	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW53	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW54	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_MW55	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	25-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	22-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW56	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	24-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW57	26-Mar-02	<1.0	4.0	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	<1.0	2.6	<1.0	<1.0	0.7J	NA	<1.0
HPFF_MW58	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW59	27-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	23-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Oct-08	<1.0	<1.0	<1.0	<1.0	0.57J	NA	<1.0
HPFF_MW60	27-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-07	<100	<100	<100	<100	<100	NA	<100
	20-Aug-07	<100	<100	<100	<100	<100	NA	<100
	27-Feb-08	<100	<100	<100	<100	<100	NA	<100
	21-Oct-08	<10	<10	<10	<10	<10	NA	<10
	12-Mar-09	<10	<10	<10	<10	<10	NA	<10
HPFF_MW61	27-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	21-Oct-08	<1.0	<1.0	<1.0	<1.0	0.57J	NA	<1.0
HPFF_MW62	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	27-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW63	26-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	15-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	28-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW64	27-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	17-Nov-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW65	27-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW66	27-Mar-02	<4.0	<4.0	<4.0	<4.0	<4.0	NA	<4.0
	17-Aug-07	<100	<100	<100	<100	<100	NA	<100
	28-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW67	27-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	30-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW68	25-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	28-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW69	27-Mar-02	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	29-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
HPFF_MW70	27-Mar-02	<1.0	<1.0	<1.0	<1.0	3.0	NA	<1.0
	16-Aug-07	<1.0	<1.0	<1.0	<1.0	4.6	NA	<1.0
	30-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW71	27-Mar-02	<1.0	<1.0	<1.0	<1.0	3.0	NA	<1.0
	16-Aug-07	<1.0	<1.0	<1.0	<1.0	1.8	NA	<1.0
	30-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW72	25-Mar-02	<160	<160	<160	<160	<160	NA	<160
	17-Aug-07	<500	<500	<500	<500	<500	NA	<500
HPFF_MW73	23-Aug-07	<50	<50	<50	<50	<50	NA	<50
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	1.3	NA	<1.0
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	1.7	NA	<1.0
HPFF_MW74	23-Aug-07	<10	<10	<10	<10	<10	NA	<10
	24-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW76	25-Aug-07	<1.0	83.7	<1.0	0.43J	2.9	NA	<1.0
	29-Oct-08	<1.0	89.2	<1.0	<1.0	5.9	NA	<1.0
HPFF_MW77	15-Aug-07	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	28-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_MW78	26-Nov-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	20-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
HPFF_SP100	26-Nov-03	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
TankS781_MW01 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
TankS781_MW02 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
TankS781_MW03 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
	23-Apr-98	<10	<10	<10	NA	NA	<10	<10
TankS781_MW04 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	2.0	<1.0
	23-Apr-98	<10	<10	<10	NA	NA	<10	<10
TankS781_MW05 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
TankS781_MW06 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
TankS781_MW07 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
	22-Apr-98	<10	<10	<10	NA	NA	<10	<10
TankS781_MW08 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
	22-Apr-98	<10	<10	<10	NA	NA	<10	<10
TankS781_MW09 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
TankS781_MW10 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
TankS781_MW11 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
	23-Apr-98	<10	<10	<10	NA	NA	<10	<10

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
TankS781_MW12 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
	23-Apr-98	<10	<10	<10	NA	NA	<10	<10
TankS781_MW13 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
TankS781_MW14 (O&G)	12-Dec-91	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0
HPGW22-1	7/6/1984	<1.2	<1.0	<0.90	<0.80	NA	NA	<0.60
	1/9/1987	<30	<30	<28	<16	NA	NA	<10
	3/8/1987	<2,000	<1,000	<2,800	<1,600	NA	NA	<1,000
	5/27/1987	<2,000	<1,000	<2,800	<1,600	NA	NA	<1,000
	1/18/1991	<5.0	5.0J	<5.0	NA	NA	<5.0	<10
	5/21/1993	ND	ND	ND	ND	ND	NA	ND
	7/9/1995	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	10/25/1995	<25	<25	<25	<25	NA	NA	<25
	1/19/1996	<25	<25	<25	<25	NA	NA	<25
	4/9/1996	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
10/20/2008	<22	<32	<54	<45	<20	NA	<30	
HPGW22-2	7/6/1984	<1.2	<1.0	<0.90	<0.80	NA	NA	<0.60
	1/9/1987	<30	<30	<28	<16	NA	NA	<10
	3/8/1987	<2,000	<1,000	<2,800	<1,600	NA	NA	<1,000
	5/27/1987	<2,000	<1,000	<2,800	<1,600	NA	NA	<1,000
	1/18/1991	<5.0	5.0J	<5.0	NA	NA	<5.0	<10
	5/21/1993	ND	ND	ND	ND	ND	NA	ND
	7/9/1995	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	10/25/1995	<25	<25	<25	<25	NA	NA	<25
	1/19/1996	<25	<25	<25	<25	NA	NA	<25
	4/9/1996	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/23/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	1/22/2001	<0.90	0.87J	<0.29	<0.18	0.46J	NA	<0.12
	7/27/2001	<0.25	<0.080	<0.090	<0.80	<0.12	NA	<0.90
	8/5/2002	<1.0	1.2	<1.0	<1.0	0.59J	NA	<1.0
	2/17/2003	<0.50	0.81J	<0.50	<0.50	<0.50	NA	<0.50
	8/20/2003	<0.50	2.1	<0.50	<0.50	<0.50	NA	<0.50
2/21/2004	<0.50	2.6	<0.50	<0.50	<0.50	NA	<0.50	
8/18/2004	<0.50	2.2	<0.50	<0.50	<0.50	NA	<0.50	
3/24/2005	<0.50	1.7	<0.50	<0.50	<0.50	NA	<0.50	
8/18/2005	<0.50	2.1	<0.50	<0.50	<0.50	NA	<0.50	
10/21/2008	<0.22	2	<0.54	<0.45	0.70J	NA	<0.30	
IRP22_MWA	11/7/2008	<4.4	<6.4	<11	<9.0	<4.0	NA	<6.0

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP22_MW01	4/20/1988	<1,000	<1,000	NA	NA	NA	NA	NA
	2/17/2000	<20	<20	<20	<20	<20	NA	<20
	1/31/2001	<36	<72	<120	<72	<36	NA	<48
	7/22/2001	<250	<80	<90	<80	<120	NA	<90
	2/9/2002	<100	<100	<100	<100	<100	NA	<100
	8/13/2002	<100	<100	<100	<100	<100	NA	<100
	2/17/2003	<250	<250	<250	<250	<250	NA	<250
	8/27/2003	<50	<50	<50	<50	<50	NA	<50
	2/14/2004	<50	<50	<50	<50	<50	NA	<50
	8/20/2004	<250	<250	<250	<250	<250	NA	<250
	4/13/2005	<50	<50	<50	<50	<50	NA	<50
	8/31/2005	<50	<50	<50	<50	<50	NA	<50
	8/15/2007	<50	<76	<46	<40	<56	NA	<68
2/28/2008	<63	<95	<58	<50	<70	NA	<85	
IRP22_MW02	4/20/1988	<1,000	<1,000	NA	NA	NA	NA	NA
	2/18/2000	<100	<100	<100	<100	<100	NA	<100
	10/20/2008	<110	<160	<120	<230	<100	NA	<150
IRP22_MW03	4/20/1988	4.0	<1.0	NA	NA	NA	NA	NA
	11/30/1995	<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/16/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10/30/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP22_MW04	4/20/1988	<1.0	<1.0	NA	NA	NA	NA	NA
	11/30/1995	<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
	6/4/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/16/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10/29/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP22_MW05	4/20/1988	<1.0	<1.0	NA	NA	NA	NA	NA
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/17/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP22_MW06	4/20/1988	<100	<100	NA	NA	NA	NA	NA
	11/30/1995	<0.17	<0.09	<0.05	<0.05	NA	NA	<0.2
	6/4/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/22/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	8/21/2007	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	2/27/2008	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	10/22/2008	<0.44	<0.64	<1.1	<0.90	<0.40	NA	<0.60
IRP22_MW09	4/20/1988	<1.0	<1.0	NA	NA	NA	NA	NA
	11/30/1995	<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP22_MW09—Cont.	2/15/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	8/16/2007	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	10/28/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP22_MW-10R	6/5/1997	<500	<500	<500	<500	NA	NA	<500
	2/17/2000	<10	<10	<10	<10	<10	NA	<10
	1/31/2001	<7.2	<14	<23	<14	<7.2	NA	<9.6
	2/9/2002	<100	<100	<100	<100	<100	NA	<100
	8/13/2002	<100	<100	<100	<100	<100	NA	<100
	2/17/2003	<25	<25	<25	<25	<25	NA	<25
	8/27/2003	<50	<50	<50	<50	<50	NA	<50
	2/14/2004	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	9/8/2004	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	4/13/2005	<2.5	<2.5	<2.5	<2.5	<2.5	NA	<2.5
	8/27/2005	<25	<25	<25	<25	<25	NA	<25
IRP22_MW11 AKA BOGW11	8/21/2007	<5.0	<7.6	<4.6	<4.0	<5.6	NA	<6.8
	2/28/2008	<5.0	<7.6	<4.6	<4.0	<5.6	NA	<6.8
	10/21/2008	<2.2	<3.2	<5.4	<4.5	<2.0	NA	<3.0
	4/20/1988	<1.0	<1.0	NA	NA	NA	NA	NA
	11/30/1995	<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
	6/4/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/15/2000	<10	<10	<10	<10	<10	NA	<10
	2/1/2001	<0.72	<1.4	<2.3	<1.4	<0.72	NA	<0.96
	2/9/2002	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0
	8/13/2002	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
IRP22_MW12 AKA BOGW12	2/18/2003	<10	<10	<10	<10	<10	NA	<10
	8/22/2003	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	2/14/2004	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	4/13/2005	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	8/16/2007	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	4/21/1988	<1,000	<1,000	NA	NA	NA	NA	NA
	8/20/2007	<5.0	<7.6	<4.6	<4.0	<5.6	NA	<6.8
	2/26/2008	<5.0	<7.6	<4.6	<4.0	<5.6	NA	<6.8
	10/21/2008	<1.1	<1.6	<2.7	<2.3	<1.0	NA	<1.5
	IRP22_MW15	4/21/1988	<1,000	<1,000	NA	NA	NA	NA
11/30/1995		<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
6/5/1997		<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
8/17/2007		<25	<38	<23	<20	<28	NA	<34
3/3/2008		<25	<38	<23	<20	<28	NA	<34
IRP22_MW17	4/21/1988	<100	<100	NA	NA	NA	NA	NA
	11/30/1995	<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/18/2000	<50	<50	<50	<50	<50	NA	<50
	7/24/2001	<250	<80	<90	<80	<120	NA	<90

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						VC
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	
IRP22_MW17—Cont.	2/9/2002	<500	<500	<500	<500	<500	NA	<500
	8/31/2005	<50	<50	<50	<50	<50	NA	<50
	8/16/2007	<130	<190	<100	<100	<140	NA	<170
	10/20/2008	<110	<160	<270	<230	<100	NA	<150
IRP22_MW18	4/21/1988	<1,000	<1,000	NA	NA	NA	NA	NA
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/17/2000	<50	<50	<50	<50	<50	NA	<50
	1/31/2001	<16	<72	<120	<72	<16	NA	<48
	7/24/2001	<250	<80	<90	<80	<120	NA	<90
	2/9/2002	<250	<250	<250	<250	<250	NA	<250
	8/14/2002	<500	<500	<500	<500	<500	NA	<500
	2/18/2003	<250	<250	<250	<250	<250	NA	<250
	8/27/2003	<50	<50	<50	<50	<50	NA	<50
	2/14/2004	<50	<50	<50	<50	<50	NA	<50
	8/20/2004	<50	<50	<50	<50	<50	NA	<50
	4/13/2005	<50	<50	<50	<50	<50	NA	<50
	8/31/2005	<50	<50	<50	<50	<50	NA	<50
8/15/2007	<50	<76	<46	<40	<56	NA	<68	
IRP22_MW19	4/21/1988	<1.0	<1.0	NA	NA	NA	NA	NA
	11/30/1995	<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/17/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	4/18/2005	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	8/14/2007	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	10/20/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP22_MW20 AKA BOMW20	4/21/1988	<1.0	1.0	NA	NA	NA	NA	NA
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/23/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	8/24/2007	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	11/30/1995	<0.17	<0.09	<0.16	<0.05	NA	NA	<0.2
IRP22_MW21	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/16/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP22_RW01	11/30/2008	<1.1	<1.6	<2.7	<2.3	<1.0	NA	<1.5
IRP22_RW04	11/30/2008	<1.1	<1.6	<2.7	<2.3	<1.0	NA	<1.5
IRP78_GW05	1/12/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/8/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/27/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/10/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	5/22/1993	ND	ND	ND	ND	ND	NA	ND
	7/9/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	10/25/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	1/17/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
4/11/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50	

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_GW05—Cont.	7/17/1996	<2.0	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/6/1996	<2.0	<0.50	<0.50	NA	NA	<0.50	<0.50
	1/12/2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	5/18/2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	10/16/2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/11/2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	7/24/2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/25/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/23/2004	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<2.0
	10/11/2004	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
IRP78_GW06	6/30/2001	<62	<20	<22	<20	<30	NA	<22
	12/19/2001	<10	<10	<10	<10	<10	NA	<10
	6/25/2002	<20	<20	<20	<20	<20	NA	<20
	12/17/2002	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
	6/24/2004	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
	10/6/2004	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
	4/7/2006	<0.784	<0.442	<0.379	<0.316	<0.887	NA	<0.273
	7/26/2007	<0.167	<0.115	<0.125	<0.117	<0.21	NA	<0.116
	4/8/2008	ND	ND	NA	ND	ND	NA	NA
	7/9/2008	ND	ND	NA	ND	ND	NA	NA
12/12/2008	ND	ND	NA	ND	ND	NA	NA	
IRP78_GW07	1/12/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/9/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/27/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/9/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	10/11/2004	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
IRP78_GW12	1/14/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/9/1987	3.6	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/9/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	5/23/1993	ND	ND	ND	ND	ND	NA	ND
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/16/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10/29/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP78_GW13	1/14/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/9/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/12/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/16/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10/24/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_GW14	1/14/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/9/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/10/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	5/23/1993	ND	ND	ND	ND	ND	NA	ND
	7/10/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	10/26/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	1/17/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	4/11/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	7/12/1996	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/5/1996	<2.0	<0.50	<0.50	NA	NA	<0.50	<0.50
	2/2/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	4/27/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	8/9/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	2/8/1998	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	7/26/1998	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	1/16/1999	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
2/16/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
7/16/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	
10/29/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30	
IRP78_GW15	1/15/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/9/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/8/1991	<5.0	4.0J	<5.0	NA	NA	7.0	<10
	5/24/1993	1.0	1.0	ND	ND	ND	NA	ND
	7/14/1996	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/7/1996	<2.0	0.90	<0.50	NA	NA	<0.50	<0.50
	2/5/1997	<0.50	1.0	<0.50	NA	NA	<0.50	<0.50
	4/30/1997	<0.50	1.0	<0.50	NA	NA	<0.50	<0.50
	6/5/1997	<0.5	1.4	<0.5	<0.5	NA	NA	<0.5
	8/9/1997	<0.50	1.0	<0.50	NA	NA	<0.50	<0.50
	2/6/1998	<5.0	1.1J	<5.0	NA	NA	<5.0	<10
	7/26/1998	<5.0	0.89J	<5.0	NA	NA	<5.0	<10
	1/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/17/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	2/16/2000	<1.0	1.0	<1.0	<1.0	<1.0	NA	<1.0
	7/17/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
5/20/2001	<5.0	8.0	<5.0	<5.0	88	88	1.0J	
10/28/2008	<11	<16	<27	<23	<10	NA	<15	

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_GW16	1/15/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/10/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/9/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/15/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10/28/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP78_GW17-1	1/15/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/8/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/7/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	5/24/1993	ND	ND	ND	ND	ND	NA	ND
	7/12/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	10/26/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	1/17/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	4/10/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	7/15/1996	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/7/1996	<2.0	<0.50	<0.50	NA	NA	<0.50	<0.50
	2/2/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	4/29/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	8/9/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	2/9/1998	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	7/26/1998	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	1/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
2/15/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
7/17/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	
10/29/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30	
IRP78_GW17-2	8/5/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/8/1991	<5.0	<5.0	<5.0	NA	NA	1.0J	<10
	5/23/1993	ND	ND	ND	ND	ND	NA	ND
	2/22/2000	<1.0	<1.0	6.0	<1.0	<1.0	NA	<1.0
	8/16/2007	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	2/27/2008	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	10/27/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP78_GW19	1/16/1987	<3.0	6.0	<2.8	2.5	NA	NA	<1.0
	3/10/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/11/1991	2.0J	2.0J	<5.0	NA	NA	0.8J	<10

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_GW19—Cont.	5/23/1993	1.0	1.0	ND	ND	ND	NA	ND
	7/10/1995	<0.50	1.5	<0.50	<0.50	NA	NA	<0.50
	10/26/1995	0.80	<0.50	<0.50	<0.50	NA	NA	<0.50
	1/17/1996	0.70	<0.50	<0.50	<0.50	NA	NA	<0.50
	4/10/1996	0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	7/16/1996	0.80	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/5/1996	0.80	<0.50	<0.50	NA	NA	<0.50	<0.50
	6/4/1997	1.1	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/15/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10/23/2008	0.56J	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP78_GW20	1/16/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/10/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/12/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	11/3/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP78_GW21	1/16/1987	<3.0	<3.0	<2.8	<1.6	NA	NA	<1.0
	3/10/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	5/28/1987	<3.0	<1.0	<2.8	<1.6	NA	NA	<1.0
	1/17/1991	<5.0	3.0J	<5.0	NA	NA	<5.0	<10
	5/21/1993	ND	2.0	ND	ND	ND	NA	ND
	7/9/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	10/25/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	1/17/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	4/10/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	7/17/1996	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/3/1996	<2.0	<0.50	<0.50	NA	NA	<0.50	<0.50
	2/3/1997	<5.0	<5.0	<0.50	NA	NA	<5.0	<10
	4/28/1997	<5.0	<5.0	<0.50	NA	NA	<5.0	<10
	6/5/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	8/10/1997	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	2/5/1998	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	7/28/1998	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	1/17/1999	0.9J	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
2/23/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
7/16/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	
10/20/2008	<0.22	0.55	<0.54	<0.45	<0.20	NA	<0.30	
IRP78_GW22A	7/9/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	10/25/1995	<25	<25	<25	<25	NA	NA	<25
	1/19/1996	<25	<25	<25	<25	NA	NA	<25
	4/9/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_GW22A—Cont.	7/17/1996	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/4/1996	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	2/5/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	4/28/1997	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	8/10/1997	<0.50	<0.50	<0.50	NA	NA	7.0	<0.50
	2/5/1998	0.95J	<5.0	<5.0	NA	NA	<5.0	<10
	7/27/1998	<0.50	<0.50	<0.50	NA	NA	<5.0	<10
	1/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	7/17/1999	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/15/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	7/16/2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/9/2001	<5.0	<5.0	<5.0	<5.0	5.0	5.0	<2.0
	7/12/2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/24/2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	7/23/2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/25/2003	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	1/23/2004	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<2.0
	1/17/2005	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0
	4/25/2005	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0
	7/26/2005	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0
	10/20/2005	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0
	1/11/2006	<0.78	<0.44	<0.38	<0.32	<0.89	NA	<0.27
	4/17/2006	<0.78	<0.44	<0.38	<0.32	<0.89	NA	<0.27
10/17/2006	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	
1/16/2007	<0.17	<0.12	<0.12	<0.12	<0.21	NA	<0.12	
3/13/2007	<0.17	<0.12	<0.12	<0.12	<0.21	NA	<0.12	
IRP78_GW23	1/19/1987	<30	830	<28	830	NA	NA	<10
	3/11/1987	<200	13,000	<280	6,100	NA	NA	<100
	5/29/1987	<200	4,300	<280	7,100	NA	NA	<100
	1/18/1991	<5.0	3,700	<5.0	NA	NA	8,900	<10
	5/23/1993	ND	440J	ND	190J	14,000J	NA	ND
	7/12/1995	<0.50	39.4	<0.50	248	NA	NA	54
	10/25/1995	<1.3	53.9	4.2	18.7	NA	NA	80.9
	1/17/1996	<25	72	219	<25	NA	NA	180
	4/9/1996	<50	<50	<50	130	NA	NA	360
	7/14/1996	<2.0	NA	5.0	NA	NA	NA	NA
	10/4/1996	<2.0	40	2.0	NA	NA	6,200	200
	2/5/1997	<5.0	57	4.0	NA	NA	7,900	360
	4/28/1997	<50	<50	<50	NA	NA	9,500	340
	8/10/1997	<0.50	62	4	NA	NA	10,000	590
2/5/1998	<620	<620	<620	NA	NA	11,000	<560	
7/26/1998	<25	430J	<25	NA	NA	8,400D	61	

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_GW23—Cont.	1/17/1999	<5.0	17	<5.0	140	7,000	NA	360J
	7/17/1999	<5.0	21	<5.0	120	6,200D	6,200D	380D
	1/17/2000	<5.0	21	<5.0	140	8,100D	8,300D	490D
	7/17/2000	<5.0	13	<5.0	99	7,900D	8,100D	470D
	10/19/2000	<5.0	16	<5.0	130	9,400D	9,600D	480D
	1/11/2001	<5.0	14	<5.0	92	4,500D	2,800	190
	7/12/2001	<5.0	<5.0	6.0	55	5,000	5,000	500
	1/24/2002	<5.0	<12	6.0	62	2,100	2,100	360
	7/22/2002	<5.0	8.0	<5.0	57	1,500	1,600	190
	1/25/2003	<5.0	8.0	0.40J	67	1,600	1,700	190
	10/30/2003	<25	<25	<25	36.4J	1,650	NA	100
	1/13/2004	<1.0	12.5	NA	63.9E	2,020	NA	149
	1/23/2004	<5.0	5.0	<5.0	92	2,100D	2,200D	310
	4/8/2004	<100	<100	NA	<100	2,050	NA	156
	7/9/2004	<10	49.3	NA	<10	1,490	NA	121
	10/11/2004	<50	<50	NA	<50	995	NA	63
	1/10/2005	<20	<20	NA	28.9	809	NA	55.9
	4/25/2005	<20	<20	NA	44.1	1,020	NA	55.9
	7/26/2005	<20	<20	NA	43.6	769	NA	59.3
	10/20/2005	<1.0	5.5	NA	64	<1.0	NA	77.3
1/11/2006	<39.2	<22.1	<19	<15.8	674	NA	57.2	
4/17/2006	<15.7	<8.8	<7.6	7	569	NA	64.0	
10/17/2006	<25	<25	<25	<25	274	NA	65.8	
1/16/2007	<6.7	<4.6	<5.0	<4.7	319	NA	<4.6	
3/13/2007	<6.7	<4.6	<5.0	<4.7	294	NA	22.0	
IRP78_GW31-2	1/17/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	5/24/1993	ND	3.0	ND	ND	<5.0	NA	ND
	6/4/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/17/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	8/14/2007	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
	10/29/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30
IRP78_GW31-3	5/24/1993	ND	ND	ND	ND	1.0J	NA	ND
	7/12/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	11/6/1995	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	1/20/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	4/17/1996	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50
	7/11/1996	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50
	10/8/1996	<2.0	<0.50	<0.50	NA	NA	<0.50	<0.50
	6/4/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/17/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	10/29/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30

Table D5

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_GW32-2	1/12/1991	<5.0	<5.0	<5.0	NA	NA	<5.0	<10
	5/23/1993	ND	ND	ND	ND	NA	NA	ND
	6/4/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	2/17/2000	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	1/31/2001	<0.18	<0.36	<0.58	<0.36	<0.18	NA	<0.24
	7/24/2001	<0.25	<0.08	<0.09	<0.08	<0.12	NA	<0.09
	2/9/2002	<10	<10	<10	<10	<10	NA	<10
	8/14/2002	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	2/21/2003	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
	8/25/2003	<2.5	<2.5	<2.5	<2.5	<2.5	NA	<2.5
	2/23/2004	<2.5	<2.5	<2.5	<2.5	<2.5	NA	<2.5
	9/13/2004	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	4/6/2005	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0
	8/18/2007	<13	<19	<12	<10	<14	NA	<17
	3/3/2008	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34
10/27/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30	
IRP78_GW32-3	5/23/1993	ND	6.0	ND	ND	ND	NA	ND
	6/4/1997	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5
	1/31/2001	<0.18	<0.36	<0.58	<0.36	<0.18	NA	<0.24
	7/24/2001	<2.5	<0.80	<0.90	<0.80	<1.2	NA	<0.90
	2/9/2002	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
	8/14/2002	<2.0	<2.0	<2.0	<2.0	<2.0	NA	<2.0
	2/21/2003	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
	8/26/2003	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50
	2/23/2004	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	9/9/2004	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	4/6/2005	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	8/18/2007	<1.3	<1.9	<1.2	<1.0	<1.4	NA	<1.7
3/3/2008	<0.25	<0.38	<0.23	<0.20	<0.28	NA	<0.34	
10/27/2008	<0.22	<0.32	<0.54	<0.45	<0.20	NA	<0.30	
IRP78-GW79IW	9/17/2011	<1.0	<1.0	<1.0	<1.0	0.67J	NA	<1.0
IRP78-GW80DW	9/17/2011	<1.0	<1.0	<1.0	<1.0	1.4	NA	<1.0
IRP78-GW80IW	9/17/2011	<1.0	2.1	<1.0	<1.0	2.3	NA	<1.0
IRP78-GW81DW	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW81IW	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW82IW	9/17/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW83IW	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW84IW	9/13/2011	<1.0	<1.0	<1.0	<1.0	56	NA	10
IRP78-GW85	9/15/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW85IW	9/15/2011	<1.0	<1.0	<1.0	<1.0	0.95J	NA	<1.0
IRP78-GW86DW	9/17/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW87MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	1.4	NA	23

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78-GW88UCH	9/15/2011	<1.0	<1.0	1.6	7.5	39	NA	39
IRP78-GW89MCH	9/16/2011	6.3	150	<1.0	100	200	NA	0.92J
IRP78-GW90MCH	9/16/2011	140J	9,500	15J	2,200	6,700	NA	110J
IRP78-GW91LCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW92MCH	9/16/2011	0.76J	35	1.1	11	50	NA	15
IRP78-GW93MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	88	NA	0.78J
IRP78-GW94LCH	9/16/2011	<1.0	0.64J	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW95MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW96MCH	9/16/2011	0.99J	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW97LCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW98 MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	0.76J	NA	<1.0
IRP78-GW99 MCH	9/15/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW100 MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	95
IRP78-GW101 MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	1.2	NA	<1.0
IRP78-GW102 MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW103 MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	0.51J	NA	<1.0
IRP78-GW104 LCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW105MCH	9/16/2011	<1.0	28	<1.0	<1.0	14	NA	<1.0
IRP78-GW106MCH	9/16/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW107	9/15/2011	<1.0	26	7.0	<1.0	67	NA	3.4
IRP78-GW108 UCH	9/15/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW109 UCH	9/15/2011	<1.0	12,000	23J	1.4J	360	NA	2.5J
IRP78-GW110 MCH	9/14/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW111 MCH	9/14/2011	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0
IRP78-GW112 MCH	9/14/2011	<1.0	<1.0	<1.0	<1.0	5.0	NA	<1.0
IRP78_RW10N	7/13/1995	<0.50	55.9	<0.50	3.1	NA	NA	<0.50
	10/25/1995	<0.50	8.7	<0.50	<0.50	NA	NA	<0.50
	1/17/1996	<2.0	15.4	<2.0	<2.0	NA	NA	<2.0
	4/9/1996	<0.50	23	<0.50	<0.50	NA	NA	1.8
	1/17/2000	<5.0	140	<5.0	<5.0	190D	190D	21
	7/17/2000	<5.0	100	<5.0	<5.0	200	200	3.0
	1/11/2001	<5.0	64	<5.0	<5.0	96	96	<2.0
	7/12/2001	<5.0	140	<5.0	<5.0	640	650	8.0
	1/24/2002	<5.0	73B	<5.0	<5.0	110	110	5.0
	1/28/2003	<5.0	110	<5.0	2.0J	180	190	6.0
	10/30/2003	<1.0	22	<1.0	<1.0	33	NA	0.81J
	1/13/2004	<1.0	118	NA	0.92J	188	NA	3.0
	1/23/2004	<5.0	72	0.40J	2.0J	130	130	<2.0
	4/8/2004	<1.0	267	NA	0.93J	419	NA	3.4
	7/9/2004	<1.0	45.8	NA	<1.0	57.4	NA	2.8
	10/11/2004	0.98J	<1.0	NA	<1.0	<1.0	NA	<1.0

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Sample date	Concentration, in micrograms per liter						
		PCE	TCE	1,1-DCE	<i>trans</i> -1,2-DCE	<i>cis</i> -1,2-DCE	Total 1,2-DCE	VC
IRP78_RW10N—Cont.	1/10/2005	<1.0	89.4	NA	1.2	118	NA	6
	4/25/2005	<5.0	105	NA	<5.0	117	NA	<5.0
	7/26/2005	<5.0	105	NA	<5.0	116	NA	<5.0
	10/20/2005	<1.0	24.5	NA	<5.0	37.3	NA	<5.0
	1/11/2006	<6.3	56.9	<3.0	<2.5	60.5	NA	<2.2
	4/17/2006	<3.9	25.1	<1.9	<1.6	39.8	NA	<1.4
	10/17/2006	<4.0	35.7	<4.0	<4.0	42.4	NA	<4.0
	1/16/2007	<0.67	32.9	<0.50	<0.47	33.9	NA	0.75
	3/13/2007	<0.67	34.7	<0.50	<0.47	36	NA	<0.46
	9/13/2011	<1.0	0.56J	<1.0	<1.0	1.3	NA	<1.0

¹ See Faye et al. 2010 (Plate 1) for site locations. Names in parentheses after some of the site names refer to corporations or companies who installed the well

Data sources:

Building 20	Law Engineering and Environmental Services, Inc. 2000f (UST#49)
Building 21	Baker Environmental, Inc. 1993c (UST#45); Law Engineering and Environmental Services, Inc. 2000h (UST#51)
Building 24	Law Engineering and Environmental Services, Inc. 2002a (UST#390)
Building 30	Osage of Virginia, Inc. 2008 (UST#30_2008ROF_FINAL)
Building 33	R.E. Wright Associates, Inc. 1994c (UST#59)
Building 45/IR Site 84	Baker Environmental, Inc. and CH2M Hill, Inc. 2002b (CERCLA#3268); R.E. Wright Associates, Inc. 1994a (UST#740)
Building 311	Law Engineering and Environmental Services, Inc. 2000e (UST#230)
Building 645	Catlin Engineers and Scientists 2008 (UST#645_ADDL_SITEASSESS); Sovereign Consulting, Inc. 2007a (UST#BLDG645FINALAMR2007), 2008b (UST#645_2008FINALAMR)
Building 728	Versar, Inc. 1992 (UST#735)
Building 820	Law Engineering, Inc. 1995c (UST#543), 1995a (UST#715); OHM Remediation Services Corp 2000d (UST#539), 2001b (UST#527), 2002b (UST#528); Shaw Environmental, Inc. 2006b (UST#2005AMR_820)
Building 900	Baker Environmental, Inc. and CH2M Hill Inc. 2002a (CERCLA#3273); Engineering and Environment, Inc. 2006b (UST#900_2005MON); Sovereign Consulting, Inc. 2006d (UST#900_2006AMR), 2007b (UST#900AMRFINAL2007)
Building 1101	Shaw Environmental, Inc. 2008b (UST#HPFF_20072008_AMR_061608), 2009d (UST#HPFF_2009FINALAMR_SHAW)
Building 1106	Law Engineering and Environmental Services, Inc. 1997b (UST#68)
Building 1115	Catlin Engineers and Scientists 1998b (UST#456), 2000b (UST#666), 2007a (UST#FINAL_UST_MANRPT_YEAR2006); Groundwater Technology Government Services, Inc. 1993a (UST#383); OHM Remediation Services Corp 2001a (UST#664), 2002a (UST#407); Richard Catlin and Associates, Inc. 1994 (UST#245), 1998a (UST#410); Shaw Environmental, Inc. 2003b (UST#420), 2004b (UST#2003_FINAL_HADNOT_POINT), 2005a (UST#HADNOT_PT_1115_SITES_FINAL_2004_ANNUAL_AS-SVE_MONITORING_REPORT), 2006a (UST#HPFF_2005ASSVEMONRPT), 2008b (UST#HPFF_20072008_AMR_061608), 2009d (UST#HPFF_2009FINALAMR_SHAW)
Building 1310	R.E. Wright Associates, Inc. 1994e (UST#76); S&ME, Inc. 1998b (UST#73)
Building 1450	Law Engineering and Environmental Services, Inc. 1997e (UST#78)
Building 1502	Law Engineering and Environmental Services, Inc. 2002b (UST#532); R.E. Wright Environmental, Inc. 1995d (UST#163)

Table D5. Summary of analyses for tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), *trans*-1,2-dichloroethylene (*trans*-1,2-DCE), *cis*-1,2-dichloroethylene (*cis*-1,2-DCE), total 1,2-dichloroethylene (total 1,2-DCE), and vinyl chloride (VC) in water samples collected in monitor wells and at geoprobe/hydropunch locations, RCRA investigation sites, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; date formats are DD-MMM-YY and MM/DD/YYYY; <, constituent concentration is less than reported value. Number following the “<” sign is the detection or quantitation limit; NA, constituent concentration not determined or analytical result is unknown; J, estimated concentration; ND, constituent not detected; B, constituent detected in blank; D, sample dilution required]

Building 1601	Richard Catlin and Associates, Inc. 1997a (UST#195)
Building 1607	R.E. Wright Associates, Inc. 1994f (UST#724); S&ME, Inc. 1998c (UST#723)
Building 1613/IR Site 94	OHM Remediation Services Corp 2000c (UST#547), 2001d (UST#550), 2001e (UST#555), 2002c (UST#549); Richard Catlin and Associates, Inc. 1996a (UST#548); Shaw Environmental, Inc. 2003a (UST#20070730_008), 2005c (UST#BUILDING_1613_FINAL_2004_ANNUAL_MONITORING_REPORT); Sovereign Consulting, Inc. 2006e (UST#1613_2006AMR), 2008c (UST#1613FINALAMR2008)
Building 1817	Catlin Engineers and Scientists 1997 (UST #20070802_010)
Building 1880	Law Engineering and Environmental Services, Inc. 1996i (UST#86)
Building 1919-1	R.E. Wright Associates, Inc. 1994g (UST#485)
Building 1919-2	Law Engineering and Environmental Services, Inc. 2001b (UST#391)
Building FC40	Catlin Engineers and Scientists 2003b (UST#116)
Building FC102	R.E. Wright Associates, Inc. 1994i (UST#261)
Building FC201	Law Engineering, Inc. 1994b (UST#750)
Building FC251	R.E. Wright Associates, Inc. 1994k (UST#263); Richard Catlin and Associates, Inc. 1996d (UST#276)
Building FC263	Richard Catlin and Associates, Inc. 1995c (UST#139)
Building H19	Catlin Engineers and Scientists 2005a (UST#204055_H_19_AS); Law Engineering and Environmental Services, Inc. 1997g (UST#374), 2000a (UST#397), 2001c (UST#398); R.E. Wright Environmental, Inc. 1995b (UST#755)
Building H28	Catlin Engineers and Scientists 2006b (UST#QUARTERLY_GW_MONITORING_REPORT_SITEH-28_REV0_2-4-05); Engineering and Environment, Inc. 2003 (UST#482); Law Engineering and Environmental Services, Inc. 2000b (UST#376), 2001d (UST#20070727_002)
Building H30	Catlin Engineers and Scientists 2001a (UST#384); Law Engineering and Environmental Services, Inc. 1996h (UST#758), 2000b (UST#376)
Building LCH4015	R.E. Wright Environmental, Inc. 1995c (UST#246)
Building LCH4022	Richard Catlin and Associates, Inc. 1995b (UST#152)
Building NH118	Catlin Engineers and Scientists 1997 (UST #20070802_010)
Building S1856	Catlin Engineers and Scientists 2001b (UST#196); R.E. Wright Environmental, Inc. 1995a (UST#79); Richard Catlin and Associates, Inc. 1997b (UST#100)
Building SLCH4019	R.E. Wright Associates, Inc. 1994j (UST#345)
HPFF, IRP22, IRP78	Catlin Engineers and Scientists 1998b, 2000abc, 2001f, 2002abcd, 2003d, 2004h, 2007a, 2009c (UST files #370, #386, #404, #418, #435, #456, #468, #666, #677, #668, #747, #1114_HPFF_SA, #HPFF_BIO-PULSE_SPARGE_PILOT_TEST_REPORT, #FINAL_UST_MANRPT_YEAR2006); Groundwater Technology Government Services, Inc. 1993a (UST file #383); OHM Remediation Services Corp. 2001ag, 2002a (UST file #407, #664, #676); Richard Catlin and Associates, Inc. 1994, 1997c, 1998ab (UST file #245, #408, #410, #457); Geophex, Ltd 1997, 2002a (UST file #416, #450); Shaw Environmental, Inc. 2003b, 2004b, 2005a, 2006a, 2007a, 2008b, 2009d (UST file #420, #2003_Final_Hadnot_Point, #HPFF_2005ASSVEMONRPT, #HPFF_2009FinalAMR_Shaw, #HPFF_20072008_AMR_061608, HADNOT_PT_1115_Sites_FINAL_2004_ANNUAL_AS-SVE_MONITORING REPORT, #HPFF_2007AMR); O'Brien and Gere Engineers, Inc. 1988 (UST file #669); CH2MHill 2001 (UST file #670); U.S. Marine Corps Camp Lejeune 2003ab (UST file #1185, #1186); Faye et al. 2010
Tank S781	Baker Environmental, Inc. 2002b (CERCLA#3268); O'Brien and Gere Engineers, Inc. 1992b (UST#158)

Additional data sources:

CH2MHill, written communication, December 16, 2011

Charity M. Rychak, U.S. Marine Corps Camp Lejeune, North Carolina, written communication, November 22, 2011

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg20_MW01	337457	2496375	26.5	DEM	11/27/2000	20.0	5.0–20.0	BBUAQ, BBUCU
Bldg21_DW01	332689	2498545	6.9	R	5/14/1992	30.3	24.9–29.7	BBLAQ
Bldg21_DW02	332686	2498564	7.1	R	5/15/1992	30.0	24.7–29.4	BBLAQ
Bldg21_DW03	332644	2498579	9.1	R	5/16/1992	30.0	24.5–29.4	BBLAQ
Bldg21_DW04	332600	2498520	8.9	R	5/17/1992	24.4	21.9–24.4	BBLAQ
Bldg21_MW01	332635	2498568	7.4	C1	8/20/1991	20.0	4.0–20.0	BBUAQ, BBUCU
Bldg21_MW02	332659	2498558	8.5	C1	8/20/1991	20.0	2.0–20.0	BBUAQ, BBUCU
Bldg21_MW03	332667	2498643	12.0	R	5/16/1992	15.4	5.0–14.8	BBUAQ
Bldg21_MW04	332621	2498600	10.2	R	5/16/1992	14.0	3.6–13.4	BBUAQ
Bldg21_MW05	332668	2498494	6.9	R	5/17/1992	13.5	3.0–12.8	BBUAQ, BBUCU
Bldg21_MW06	332644	2498507	8.4	R	5/17/1992	13.5	3.0–12.8	BBUAQ, BBUCU
Bldg21_MW07	332695	2498510	5.2	R	5/16/1992	12.0	1.5–11.3	BBUAQ
Bldg21_MW08	332700	2498534	5.4	R	5/16/1992	11.8	1.4–11.1	BBUAQ, BBUCU
Bldg21_MW09	332682	2498606	7.6	R	5/16/1992	14.2	3.8–13.6	BBUAQ
Bldg21_MW10	332664	2498660	12.0	R	2/2/1993	17.9	7.9–17.9	BBUAQ
Bldg21_MW11	332696	2498648	8.2	R	2/10/1993	12.9	2.9–12.9	BBUAQ
Bldg21_MW12	332667	2498590	8.4	R	2/10/1993	13.4	3.4–13.4	BBUAQ
Bldg21_MW13	332710	2498634	4.1	R	2/10/1993	11.2	1.2–11.2	BBUAQ
Bldg21_MW14	332699	2498581	5.6	R	2/10/1993	13.7	3.7–13.7	BBUAQ
Bldg21_MW15	332673	2498556	7.3	R	2/2/1993	13.9	3.9–13.9	BBUAQ
Bldg21_MW16	332611	2498538	8.7	R	2/2/1993	15.0	5.0–15.0	BBUAQ
Bldg21_MW17	332646	2498562	8.6	DEM	8/16/1999	14.0	4.0–14.0	BBUAQ
Bldg21_RW01	332659	2498573	8.3	R	5/17/1992	21.8	2.0–21.2	BBUAQ, BBUCU
Bldg24_MW01	341481	2493820	27.6	DEM	9/5/2000	28.0	13.0–28.0	BBUAQ, BBUCU
Bldg30_TMW11	341150	2492453	17.1	DEM	4/29/2008	20.0	15.0–20.0	BBLAQ
Bldg30_TMW24	341304	2492432	1.1	DEM	4/28/2008	15.0	10.0–15.0	BBLAQ
Bldg33_MW01	359259	2497657	32.0	C1	8/8/1994	18.0	7.7–17.7	BBLAQ, BBLCU
Bldg33_MW02	359242	2497658	32.2	C1	8/8/1994	15.8	5.5–15.5	BBLAQ, BBLCU
Bldg33_MW03	359237	2497640	31.8	C1	8/8/1994	17.0	6.7–16.7	BBLAQ, BBLCU
Bldg33_MW04	359188	2497697	31.5	C1	3/20/1995	13.5	3.5–13.5	BBLAQ
Bldg33_MW05	359194	2497631	31.0	C1	3/20/1995	13.5	3.5–13.5	BBLAQ, BBLCU
Bldg33_MW06	359273	2497742	31.7	C1	3/20/1995	14.0	4.0–14.0	BBLAQ
Bldg33_MW07	359256	2497618	31.5	C1	3/21/1995	13.5	3.5–13.5	BBLAQ
Bldg33_MW08	359327	2497618	31.5	C1	3/21/1995	13.5	3.5–13.5	BBLAQ
Bldg33_MW09	359322	2497612	31.8	C1	3/22/1995	31.5	26.5–31.5	TTAQ
Bldg33_MW10	359188	2497704	31.5	C1	3/22/1995	33.0	28.0–33.0	TTAQ
Bldg33_MW11	359234	2497649	31.7	C1	3/22/1995	14.0	4.0–14.0	BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
45-1-MW01 (Wright), AKA MW01/45	361298	2495380	20.9	R	6/21/1994	17.1	7.1–17.1	BBLAQ, BBLCU, TTAQ
45-1-MW02 (Wright)	361281	2495372	20.2	R	6/21/1994	18.7	8.7–18.7	BBLAQ, BBLCU, TTAQ
45-1-MW03 (Wright)	361294	2495483	22.1	R	6/21/1994	17.0	7.0–17.0	BBLAQ, BBLCU, TTAQ
45-1-MW04 (Wright), AKA MW04/45	361339	2495184	16.2	R	6/21/1994	18.7	8.7–18.7	BBLAQ, BBLCU, TTAQ
45-1-MW05 (Wright)	361313	2495287	19.1	R	6/22/1994	18.9	8.9–18.9	BBLAQ, BBLCU, TTAQ
Bldg45_MW01 (ATEC)	361246	2495574	24.0	R	8/26/1991	14.6	2.2–14.6	BBLAQ, BBLCU, TTAQ
Bldg45_MW02 (ATEC)	361260	2495563	23.1	R	8/26/1991	14.5	2.2–14.5	BBLAQ, BBLCU, TTAQ
Bldg45_MW03 (ATEC)	361269	2495590	20.8	R	8/26/1991	20.0	2.5–20.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW04 (Law)	361145	2495545	24.6	R	12/9/1992	21.0	6.0–21.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW05 (Law)	361406	2495558	19.5	R	12/11/1992	19.5	4.5–19.5	BBLAQ, BBLCU, TTAQ
Bldg45_MW06 (Law)	361360	2495631	20.5	R	12/11/1992	50.0	45.0–50.0	TTAQ
Bldg45_MW07 (Law)	361308	2495583	19.8	R	12/11/1992	23.0	3.0–23.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW08 (Law)	361356	2495636	20.5	R	12/11/1992	19.0	4.0–19.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW09 (Law)	361312	2495579	20.1	R	12/14/1992	50.0	45.0–50.0	TTAQ
Bldg45_MW10 (Law)	361308	2495552	21.3	R	12/14/1992	18.0	3.0–18.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW11 (Law)	361202	2495617	22.7	DEM	1993	15.5	5.5–15.5	BBLAQ, BBLCU, TTAQ
Bldg45_MW12 (Law)	361166	2495527	21.7	DEM	11/18/1993	16.0	6.0–16.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW13 (Law)	361207	2495416	20.7	DEM	1993	16.0	6.0–16.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW14 (Law)	361254	2495286	18.4	DEM	1993	16.0	6.0–16.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW15 (Law)	361316	2495343	20.6	R	12/22/1993	16.0	6.0–16.0	BBLAQ, BBLCU, TTAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg45_MW16 (Law)	361277	2495399	21.1	R	1993	16.0	6.0–16.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW17 (Law)	361365	2495544	21.3	R	12/21/1993	14.8	4.8–14.8	BBLAQ, BBLCU, TTAQ
Bldg45_MW18 (Law)	361272	2495544	23.1	R	12/1/1993	16.0	6.0–16.0	BBLAQ, BBLCU, TTAQ
Bldg45_MW19 (Law)	361241	2495675	21.7	R	12/1/1993	13.5	3.5–13.5	BBLAQ, BBLCU, TTAQ
Bldg45_MW20 (Law)	361294	2495650	20.9	R	12/1/1993	14.5	4.5–14.5	BBLAQ, BBLCU, TTAQ
Bldg45_MW21 (Law)	361260	2495281	19.4	R	1/5/1994	50.0	45.0–50.0	TTAQ
Bldg45_MW22 (Law)	361111	2495586	22.5	DEM	1994	50.7	45.7–50.7	TTAQ
Bldg45_MW23 (E&E), AKA MW02R	361263	2495584	23.3	R	2/23/2005	14.7	4.7–14.7	BBLAQ, BBLCU, TTAQ
Bldg45_MW24 (E&E), AKA MW03R	361279	2495604	21.1	R	2/23/2005	14.7	4.7–14.7	BBLAQ, BBLCU, TTAQ
Bldg45_PW01 (Law)	361295	2495567	19.9	R	12/15/1992	23.0	3.0–23.0	BBLAQ, BBLCU, TTAQ
Bldg45_PW02 (E&E), AKA PW01R	361313	2495587	21.2	R	2/23/2005	14.7	4.7–14.7	BBLAQ, BBLCU, TTAQ
Bldg61_MW01	339284	2497385	26.9	R	10/13/1993	12.3	2.3–12.3	BBUAQ
Bldg61_MW02	339300	2497374	27.2	R	10/13/1993	12.9	2.9–12.9	BBUAQ
Bldg61_MW03	339318	2497402	27.2	R	10/13/1993	13.0	3.0–13.0	BBUAQ
Bldg311_MW06	336170	2496433	21.0	DEM	11/10/2000	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW01	335906	2496507	16.9	R	3/21/1995	18.0	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW02	335956	2496560	18.6	R	3/21/1995	19.5	9.5–19.5	BBUAQ, BBUCU, BBLAQ
Bldg331_MW03	335995	2496595	19.7	R	3/21/1995	19.0	9.0–19.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW04	336012	2496628	20.3	R	3/21/1995	19.0	9.0–19.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW05	336065	2496646	21.7	R	3/22/1995	20.0	10.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW06	336049	2496609	19.3	R	3/22/1995	19.0	9.0–19.0	BBUAQ, BBUCU, BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg331_MW07	336093	2496580	19.3	R	3/22/1995	19.0	9.0–19.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW08	335988	2496442	16.0	C1	3/22/1995	17.0	7.0–17.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW09	336037	2496514	18.7	C1	3/22/1995	19.0	9.0–19.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW10	336064	2496542	18.6	C1	3/23/1995	19.0	9.0–19.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW11	335960	2496474	16.0	C1	3/23/1995	17.0	7.0–17.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW12	335968	2496619	19.5	C1	3/22/1995	19.0	9.0–19.0	BBUAQ, BBUCU, BBLAQ
Bldg331_MW13	336060	2496650	21.7	R	3/26/1995	50.0	45.0–50.0	BBLAQ
Bldg331_MW14	335991	2496590	19.6	R	3/28/1995	40.0	35.0–40.0	BBLAQ
Bldg331_MW15	335911	2496513	16.9	R	3/28/1995	35.0	30.0–35.0	BBLAQ
Bldg331_PW16	336065	2496598	19.1	R	3/29/1996	35.0	5.0–35.0	BBUAQ, BBUCU, BBLAQ
Bldg575_MW01	333891	2500063	14.7	DEM	8/18/1997	20.0	10.0–20.0	BBUAQ
Bldg645_MW01	356452	2497349	26.5	C2	10/25/1993	22.0	11.6–21.6	BBLCU, TTAQ
Bldg645_MW02	356437	2497363	27.2	C2	10/25/1993	22.6	12.2–22.2	BBLCU, TTAQ
Bldg645_MW03	356458	2497372	27.5	C2	10/25/1993	23.5	8.1–23.1	BBLCU, TTAQ
Bldg645_MW04	356535	2497267	23.0	C2	10/21/1994	13.5	3.5–13.5	BBLAQ, BBLCU
Bldg645_MW05	356621	2497448	27.8	C2	10/26/1994	22.0	12.0–22.0	BBLCU, TTAQ
Bldg645_MW06	356462	2497593	30.3	C2	11/3/1994	25.0	15.0–25.0	BBLCU, TTAQ(?)
Bldg645_MW07	356192	2497267	28.4	C2	10/31/1994	25.0	15.0–25.0	BBLCU, TTAQ(?)
Bldg645_MW08	356542	2497397	27.7	C2	11/7/1994	25.0	15.0–25.0	BBLCU, TTAQ(?)
Bldg645_MW09	356464	2497375	28.2	C2	10/27/1994	50.0	45.0–50.0	TTAQ
Bldg645_MW10	356193	2497271	28.5	C2	11/1/1994	50.0	45.0–50.0	TTAQ
Bldg645_MW11	356536	2497400	27.8	C2	11/5/1994	48.0	43.0–48.0	TTAQ
Bldg645_MW12	356469	2497374	28.3	C2	11/3/1994	38.0	18.0–38.0	BBLCU, TTAQ
Bldg645_MW13	356534	2497400	27.9	C2	11/16/1994	35.0	25.0–35.0	TTAQ
Bldg645_MW14	356192	2497263	28.7	C2	11/16/1994	32.5	22.5–32.5	TTAQ
Bldg645_MW15	356445	2497372	27.3	C2	3/9/1996	80.0	74.5–79.5	UCHRBU
Bldg645_MW16	356255	2497229	28.7	C2	3/6/1996	80.0	74.5–79.5	UCHRBU
Bldg645_MW17	356418	2497205	28.0	C2	2/29/1996	80.0	74.5–79.5	UCHRBU
Bldg645_MW18	356462	2497584	29.7	C2	8/8/1996	80.0	74.5–79.5	UCHRBU
Bldg645_MW19	356271	2497164	28.9	C2	N/A	34.5	14.0–34.0	BBLCU, TTAQ
Bldg645_MW20	356277	2497148	28.5	C2	N/A	50.0	44.5–49.5	TTAQ
Bldg645_MW21	356530	2497270	23.2	C2	7/31/2001	80.0	75.0–79.5	UCHRBU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg645_MW22	356450	2497412	29.0	C2	8/3/2001	80.0	75.0–79.5	UCHRBU
Bldg645_MW23	356453	2497413	28.8	C2	8/7/2001	30.0	10.0–29.5	BBLCU, TTAQ
Bldg645_MW24	356418	2497260	26.0	C2	12/1/2005	22.0	7.0–21.5	BBLCU, TTAQ(?)
Bldg645_MW25	356405	2497348	26.2	C2	12/1/2005	24.5	9.5–24.0	BBLCU, TTAQ(?)
Bldg645_MW26	356309	2497438	27.8	C2	1/6/2006	80.0	75.0–79.5	UCHRBU
Bldg645_MW27	356328	2497664	31.1	C2	1/4/2006	81.5	76.5–81.0	UCHRBU
Bldg645_MW28	356538	2497414	28.2	C2	12/28/2005	82.0	77.0–81.5	UCHRBU
Bldg645_MW29	356533	2497577	27.2	C2	12/28/2005	80.0	75.0–79.5	UCHRBU
Bldg645_MW30	356479	2497692	30.1	C2	1/3/2006	80.0	75.0–79.5	UCHRBU
Bldg645_MW31	356470	2497589	29.7	C2	12/30/2005	102.0	97.0–101.5	UCHRBU
Bldg645_MW32	356213	2497539	30.3	C2	4/9/2006	80.0	75.0–79.5	UCHRBU
Bldg645_MW33	356293	2497314	26.5	C2	9/13/2007	80.0	75.0–79.5	UCHRBU
Bldg645_MW34	356193	2497321	29.0	C2	9/13/2007	80.0	75.0–79.5	UCHRBU
Bldg645_MW35	356308	2497433	27.6	C2	1/31/2008	106.0	101.0–105.5	UCHRBU
Bldg645_MW36	356622	2497721	32.8	C2	2/29/2008	80.0	75.0–79.5	UCHRBU
Bldg645_MW37	356262	2497758	31.9	C2	2/6/2008	80.0	75.0–79.5	UCHRBU
Bldg728_MW01D	341354	2492589	2.3	R	11/20/1991	35.0	20.0–34.8	BBLCU(?), TTAQ
Bldg728_MW01S	341354	2492589	2.5	R	11/19/1991	15.0	5.0–14.8	BBLAQ
Bldg728_MW02D	341281	2492570	3.4	R	11/20/1991	35.0	20.0–34.8	BBLCU(?), TTAQ
Bldg728_MW02S	341281	2492570	3.4	R	11/21/1991	15.1	1.1–14.9	BBLAQ
Bldg728_MW03D	341220	2492496	11.6	R	11/20/1991	35.0	20.0–34.8	BBLCU, TTAQ
Bldg728_MW03S	341220	2492496	11.7	R	11/21/1991	15.9	1.9–15.7	BBLAQ
Bldg728_MW04D	341255	2492533	5.3	R	11/21/1991	40.2	25.2–39.9	TTAQ
Bldg728_MW04S	341255	2492533	4.8	R	11/21/1991	25.0	10.0–24.8	BBLAQ, BBLCU
Bldg728_MW05D	341202	2492591	9.5	R	11/21/1991	40.0	25.0–39.8	BBLCU, TTAQ
Bldg728_MW05S	341202	2492591	9.5	R	11/18/1991	25.8	10.8–25.5	BBLAQ, BBLCU
Bldg728_MW06D	341326	2492497	4.8	R	11/20/1991	35.0	20.0–34.8	BBLCU (?), TTAQ
Bldg728_MW06S	341326	2492497	5.1	R	11/19/1991	15.5	5.5–15.3	BBLAQ
Bldg728_MW07D	341385	2492506	2.8	R	11/20/1991	35.0	20.0–34.8	BBLCU(?), TTAQ
Bldg728_MW07S	341385	2492506	3.1	R	11/19/1991	15.0	5.0–14.8	BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg820_MW02	349804	2494711	30.1	DEM	8/27/1991	20.0	5.0–20.0	BBUCU, BBLAQ
Bldg820_MW03	349773	2494676	29.8	R	8/27/1991	20.0	5.0–20.0	BBUCU, BBLAQ
Bldg820_MW04	349794	2494639	30.4	R	8/27/1991	20.0	5.0–20.0	BBUCU, BBLAQ
Bldg820_MW05	349848	2494580	29.9	C1	12/1/1992	25.0	10.0–25.0	BBUCU, BBLAQ
Bldg820_MW06	349724	2494733	30.2	C1	12/1/1992	26.5	11.5–26.5	BBLAQ, BBLCU
Bldg820_MW07	349549	2494901	25.1	C1	12/7/1992	50.0	45.0–50.0	TTAQ
Bldg820_MW08	349545	2494901	25.2	C1	12/2/1992	21.0	6.0–21.0	BBUCU, BBLAQ
Bldg820_MW09	349798	2494713	29.7	C1	12/2/1992	50.5	45.0–50.0	TTAQ
Bldg820_MW09D	349790	2494709	33.0	C1	9/20/2001	98.0	93.0–98.0	UCHRBU
Bldg820_MW10	349615	2494623	30.1	C1	12/3/1992	26.0	11.0–26.0	BBUCU, BBLAQ
Bldg820_MW11	349886	2494705	29.1	C1	12/3/1992	25.0	10.0–25.0	BBUCU, BBLAQ
Bldg820_MW12	349729	2494666	30.2	C1	3/18/1994	25.0	8.5–23.5	BBUCU, BBLAQ
Bldg820_MW13	349724	2494778	28.8	C1	4/4/1994	24.0	8.0–23.0	BBUCU, BBLAQ
Bldg820_MW14	349894	2494889	29.5	C1	3/18/1994	24.0	9.0–24.0	BBUCU, BBLAQ
Bldg820_MW15	350068	2494638	29.9	C1	3/18/1994	25.0	8.5–23.5	BBUCU, BBLAQ
Bldg820_MW16	349785	2494489	30.2	C1	4/4/1994	24.0	8.0–23.0	BBUCU, BBLAQ
Bldg820_MW17	349785	2494495	30.4	C1	4/1/1994	50.0	44.5–49.5	TTAQ
Bldg820_MW18	349626	2494497	29.7	C1	3/30/1994	24.0	8.0–23.0	BBUCU, BBLAQ
Bldg820_MW19	349622	2494493	29.6	C1	4/1/1994	50.0	44.5–49.5	TTAQ
Bldg820_MW20	349434	2494602	29.7	C1	3/31/1994	24.5	8.0–23.0	BBUCU, BBLAQ
Bldg820_MW21	349431	2494608	29.8	C1	3/31/1994	50.0	44.5–49.5	TTAQ
Bldg820_MW22	349326	2494768	30.2	C1	4/20/1994	23.0	8.0–23.0	BBUCU, BBLAQ
Bldg820_MW23	349319	2494766	29.4	C1	3/30/1994	50.0	44.5–49.5	TTAQ
Bldg820_MW24	349311	2494966	27.4	C1	3/30/1994	24.0	7.5–22.5	BBUCU, BBLAQ
Bldg820_MW25	349307	2494961	26.8	C1	3/30/1994	48.5	43.5–48.5	TTAQ
Bldg820_MW26	349754	2494849	26.7	C1	4/4/1994	23.0	8.0–23.0	BBUCU, BBLAQ
Bldg820_MW27	349916	2494683	30.4	C1	9/21/2001	14.0	4.0–14.0	BBUAQ, BBUCU
Bldg820_MW28	349989	2494414	28.9	C1	4/21/2005	50.0	45.0–50.0	TTAQ
Bldg820_MW29	349872	2494841	27.4	C1	4/22/2005	50.0	45.0–50.0	TTAQ
Bldg820_MW30	350142	2494819	30.2	DEM	11/30/2005	50.0	45.0–50.0	TTAQ
Bldg820_MW31	350163	2494600	30.6	DEM	11/30/2005	50.0	45.0–50.0	TTAQ
Bldg820_MW32	350090	2494399	29.7	DEM	11/30/2005	50.0	45.0–50.0	TTAQ
Bldg820_MW33	349872	2494365	29.7	DEM	11/30/2005	50.0	42.5–47.5	TTAQ
Bldg820_MW34	349929	2494460	30.0	DEM	1/9/2006	100.0	95.0–100.0	UCHRBU
Bldg820_PW01	349750	2494725	29.8	C1	12/3/1992	32.5	12.5–32.5	TTAQ, BBUCU, BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg900_MW01	340573	2502732	30.5	C1	7/24/1996	50.0	45.0–50.0	BBUCU, BBLAQ
Bldg900_MW02	340581	2502741	30.5	R	7/24/1996	13.9	3.9–13.9	BBUAQ
Bldg900_MW03	340639	2502664	30.2	C1	7/30/1996	50.0	45.0–50.0	BBUCU, BBLAQ
Bldg900_MW04	340642	2502667	30.2	R	7/29/1996	14.0	4.0–14.0	BBUAQ
Bldg900_MW05	340635	2502768	30.3	R	7/26/1996	14.1	4.1–14.1	BBUAQ
Bldg900_MW06	340513	2502706	31.2	R	7/24/1996	13.2	3.2–13.2	BBUAQ
Bldg900_MW07	340513	2502794	30.2	R	7/25/1996	13.2	3.2–13.2	BBUAQ(?)
Bldg900_MW08	340792	2502546	30.2	DEM	N/A	15.0	2.5–15.0	BBUAQ
Bldg900_MW09	340674	2502724	29.8	DEM	6/13/2000	15.0	2.5–15.0	BBUAQ
Bldg900_MW10	340698	2502672	30.1	DEM	6/13/2000	15.0	2.5–15.0	BBUAQ
Bldg900_P-1	340569	2502747	30.8	DEM	11/2/1995	9.0	4.0–9.0	BBUAQ
Bldg900_P-2	340575	2502743	30.9	DEM	11/2/1995	8.0	3.0–8.0	BBUAQ
Bldg900_P-3	340579	2502734	31.1	DEM	11/2/1995	8.0	3.0–8.0	BBUAQ
Bldg900_P-4	340586	2502746	30.8	DEM	11/2/1995	9.0	3.0–8.0	BBUAQ
Bldg903_MW01	340814	2502969	29.9	DEM	4/8/1993	20.0	5.0–20.0	BBUAQ, BBUCU
Bldg903_MW02	340781	2502964	29.8	DEM	4/8/1993	18.5	5.0–18.5	BBUAQ, BBUCU
Bldg903_MW03	340789	2502940	29.9	DEM	4/8/1993	18.5	3.5–18.5	BBUAQ, BBUCU
Bldg903_MW04	340798	2502953	29.5	DEM	9/25/1997	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1101_MW01	339569	2501017	27.3	C1	1/11/2000	13.0	3.0–13.0	BBUAQ
Bldg1101_MW02	339554	2500961	26.8	C1	1/11/2000	13.0	3.0–13.0	BBUAQ
Bldg1101_MW03	339665	2500864	26.3	C1	1/11/2000	13.0	3.0–13.0	BBUAQ
Bldg1106_PZ01, AKA Bldg1106_ GP02	338943	2501677	29.2	R	9/19/1996	10.0	5.0–10.0	BBUAQ
Bldg1106_PZ02, AKA Bldg1106_ GP03	338970	2501696	29.3	R	9/19/1996	10.0	4.0–9.0	BBUAQ
Bldg1106_PZ03, AKA Bldg1106_ GP10	338934	2501696	29.4	R	9/19/1996	12.0	5.0–10.0	BBUAQ
Bldg1106_PZ04, AKA Bldg1106_ GP09	338968	2501712	29.1	R	9/19/1996	14.0	2.0–12.0	BBUAQ

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg1115_GT01	340120	2500705	26.8	C1	6/15/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT02	340187	2500785	26.9	C1	6/15/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT03	340152	2500718	26.7	C1	6/15/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT04	340152	2500706	26.6	C1	6/15/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT05	340161	2500701	26.6	C1	6/15/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT06	340236	2500805	26.6	C1	6/15/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT07	340299	2500881	26.4	C1	6/15/1993	19.0	4.0–19.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT08	340215	2500960	27.1	C1	6/16/1993	19.5	4.5–19.5	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT09	340138	2501027	26.5	C1	6/16/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_GT10	340061	2501098	26.9	R	6/16/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_MW01	339765	2500525	26.2	C1	11/29/1993	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1115_MW02	339870	2500370	25.7	C1	11/29/1993	14.0	4.0–14.0	BBUAQ, BBUCU
Bldg1115_MW03	339712	2500787	25.7	C1	12/14/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_MW04	340266	2500465	24.5	C1	11/30/1993	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1115_MW05	340058	2500823	26.1	C1	11/30/1993	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1115_MW06	340097	2500518	25.8	C1	12/16/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_MW07	339897	2501006	25.8	C1	12/14/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_MW08	340151	2500439	25.9	C1	12/15/1993	20.0	5.0–20.0	BBUAQ, BBUCU
Bldg1115_MW09	340432	2500868	25.5	C1	12/2/1993	20.0	5.0–20.0	BBUCU, BBLAQ
Bldg1115_MW10	340074	2500690	25.6	C1	11/29/1993	14.0	4.0–14.0	BBUAQ, BBUCU
Bldg1115_MW11	340000	2500606	25.6	C1	12/14/1993	20.0	5.0–20.0	BBUAQ, BBUCU
Bldg1115_MW12	340172	2500846	25.6	C1	11/30/1993	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_MW13	340077	2500689	25.6	C1	12/9/1993	51.0	46.0–51.0	BBLAQ
Bldg1115_MW14	340002	2500600	25.7	C1	12/6/1993	51.0	46.0–51.0	BBLAQ
Bldg1115_MW15	340176	2500843	25.6	C1	12/2/1993	51.0	46.0–51.0	BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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	North	East						
Bldg1115_MW16	340128	2500697	26.9	C1	12/13/1993	40.0	3.5–40.0	BBUAQ, BBUCU, BBLAQ
Bldg1115_MW17	340247	2500467	23.4	C1	6/1/1995	50.0	45.0–50.0	BBLAQ
Bldg1115_MW18	340143	2501041	24.7	C1	6/8/1995	50.0	45.0–50.0	BBLAQ
Bldg1115_MW19	339902	2501013	26.4	C1	6/9/1995	50.5	45.0–50.0	BBLAQ
Bldg1115_MW20	339715	2500794	26.6	C1	6/12/1995	50.5	45.0–50.0	BBLAQ
Bldg1115_MW21	339867	2500374	26.0	C1	6/7/1995	50.5	45.0–50.0	BBLAQ
Bldg1115_MW22	340244	2500473	24.1	C1	7/11/1995	80.0	75.0–80.0	TTAQ
Bldg1115_MW23	340138	2501039	24.5	C1	7/11/1995	80.0	75.0–80.0	TTAQ
Bldg1115_MW24	339864	2500373	25.9	C1	6/29/1995	80.0	75.0–80.0	TTAQ
Bldg1115_MW25	340077	2500691	25.8	C1	7/5/1995	80.0	75.0–80.0	TTAQ
Bldg1310_MW01	338279	2500993	30.8	R	10/13/1993	18.0	7.6–17.6	BBUAQ, BBUCU
Bldg1310_MW02	338306	2500960	29.8	R	10/13/1993	17.9	7.5–17.5	BBUAQ, BBUCU
Bldg1310_MW03	338328	2500985	30.1	R	10/14/1993	19.0	8.5–18.5	BBUAQ, BBUCU
Bldg1323_MW01	337304	2502214	28.2	DEM	11/9/2000	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1323_MW02	337334	2502187	27.8	DEM	11/9/2000	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1323_TMW01	337350	2502160	27.6	DEM	3/24/2003	20.0	10.0–20.0	BBUCU, BBLAQ
Bldg1450_MW01	337070	2501301	25.5	R	8/14/1996	18.0	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg1450_MW02	337127	2501307	25.9	R	8/13/1996	40.0	35.0–40.0	BBLAQ
Bldg1450_MW03	337131	2501303	25.9	R	8/14/1996	18.0	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg1450_MW04	337086	2501243	25.1	R	10/21/1996	19.3	9.3–19.3	BBUAQ, BBUCU, BBLAQ
Bldg1450_MW05	337009	2501298	25.5	R	10/22/1996	18.0	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg1450_MW06	337060	2501360	26.0	R	10/22/1996	18.5	8.5–18.5	BBUAQ, BBUCU, BBLAQ
Bldg1450_MW07	336879	2501274	26.3	R	3/16/1998	18.5	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg1450_MW08	337210	2501305	26.4	DEM	8/13/1999	19.0	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg1502_MW01 (new)	338081	2499813	25.9	DEM	11/29/2001	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1502_MW01 (old)	338378	2499982	26.1	R	6/13/1995	13.9	3.9–13.9	BBUAQ
Bldg1502_MW02 (new)	337953	2499669	26.7	DEM	11/29/2001	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg1502_MW02 (old)	338382	2499986	26.0	R	6/13/1995	14.4	4.4–14.4	BBUAQ
Bldg1502_MW03	338386	2499984	26.1	R	6/13/1995	14.4	4.4–14.4	BBUAQ
Bldg1502_MW04	338386	2499999	25.2	R	6/14/1995	15.8	5.8–15.8	BBUAQ
Bldg1607_MW01	337695	2499646	26.8	R	10/18/1993	15.6	5.6–15.6	BBUAQ, BBUCU
Bldg1607_MW02	337686	2499624	27.0	R	10/18/1993	14.4	4.0–14.0	BBUAQ, BBUCU
Bldg1607_MW03	337707	2499620	27.2	R	10/19/1993	14.3	3.9–13.9	BBUAQ, BBUCU
Bldg1607_MW07	N/A	N/A	N/A	N/A	9/26/1997	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1607_MW08	N/A	N/A	N/A	N/A	9/26/1997	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1613_MW01	338784	2498912	25.9	DEM	4/10/1995	20.0	5.0–20.0	BBUAQ, BBUCU
Bldg1613_MW02	338741	2499189	26.1	DEM	4/10/1995	20.0	5.0–20.0	BBUAQ, BBUCU
Bldg1613_MW03	338527	2499193	25.9	DEM	4/11/1995	15.4	5.4–15.4	BBUAQ, BBUCU
Bldg1613_MW04	338469	2498825	24.3	DEM	4/11/1995	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1613_MW05	338586	2498741	23.4	DEM	4/11/1995	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1613_MW06	338725	2498789	26.2	DEM	4/11/1995	20.0	10.0–20.0	BBUCU, BBLAQ
Bldg1613_MW07	338880	2499335	24.0	DEM	4/12/1995	18.5	8.5–18.5	BBUCU, BBLAQ
Bldg1613_MW08	338340	2498661	28.0	DEM	4/12/1995	16.0	8.0–16.0	BBUAQ, BBUCU
Bldg1613_MW09	338328	2498928	25.9	DEM	4/13/1995	15.1	5.1–15.1	BBUAQ, BBUCU
Bldg1613_MW10	338636	2499029	26.5	DEM	4/18/1995	18.0	8.0–18.0	BBUAQ, BBUCU
Bldg1613_MW11	338558	2498839	25.1	DEM	4/18/1995	20.6	10.6–20.6	BBUCU, BBLAQ
Bldg1613_MW12	338372	2499092	26.5	DEM	4/18/1995	20.4	10.4–20.4	BBUAQ, BBUCU
Bldg1613_MW13	338878	2499321	24.3	DEM	4/13/1995	50.0	45.0–50.0	BBLAQ
Bldg1613_MW14	338641	2499026	26.4	DEM	4/17/1995	49.5	44.5–49.5	BBLAQ
Bldg1613_MW15	338349	2498652	26.5	DEM	4/17/1995	41.0	36.0–41.0	BBLAQ
Bldg1613_MW16	338641	2499026	26.4	DEM	4/18/1995	N/A	5.0–35.0	BBUAQ, BBUCU, BBLAQ
Bldg1613_MW17	338663	2498850	26.1	DEM	2/17/1997	20.0	10.0–20.0	BBUCU, BBLAQ
Bldg1613_MW18	338618	2498855	25.5	DEM	2/17/1997	20.0	10.0–20.0	BBUCU, BBLAQ
Bldg1613_MW19	338631	2498881	24.9	DEM	2/17/1997	20.0	10.0–20.0	BBUCU, BBLAQ
Bldg1613_MW20	338548	2499061	25.7	C1	9/14/2000	17.0	7.0–17.0	BBUAQ, BBUCU
Bldg1613_MW21	338455	2498977	26.2	C1	9/14/2000	18.0	8.0–18.0	BBUAQ, BBUCU
Bldg1613_MW22	338543	2498967	25.5	C1	9/15/2000	17.0	7.0–17.0	BBUAQ, BBUCU
Bldg1817_MW01	334946	2499993	26.4	DEM	8/14/1997	25.0	15.0–25.0	BBUCU, BBLAQ
Bldg1854_MW01	334686	2500938	17.6	C1	2/6/1996	22.0	12.0–22.0	BBLAQ
Bldg1854_MW02	334642	2500891	17.4	C1	2/20/1996	22.0	12.0–22.0	BBLAQ
Bldg1854_MW03	334667	2500826	19.9	C1	2/20/1996	22.0	12.0–22.0	BBLAQ
Bldg1854_MW04	334732	2501206	7.0	C1	2/22/1996	15.0	2.5–15.0	BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
Bldg1854_MW05	334784	2500969	18.3	C1	2/22/1996	15.0	5.0–15.0	BBUAQ, BBUCU
Bldg1854_MW06	334681	2500965	17.7	C1	2/13/1996	49.0	44.0–49.0	BBLAQ
Bldg1854_MW07	334692	2500856	19.5	C1	2/14/1996	50.0	45.0–50.0	BBLAQ
Bldg1854_MW08	334659	2501165	10.5	C1	2/22/1996	44.0	39.0–44.0	BBLAQ
Bldg1880_MW01	335334	2499167	26.6	R	2/28/1996	25.0	15.0–25.0	BBUCU, BBLAQ
Bldg1880_MW02	335354	2499123	25.6	R	3/1/1996	25.0	15.0–25.0	BBUCU, BBLAQ
Bldg1880_MW03	335328	2499165	26.0	R	3/4/1996	50.0	45.0–50.0	BBLAQ
Bldg1880_MW04	335349	2499333	26.4	R	3/11/1996	25.0	15.0–25.0	BBUCU, BBLAQ
Bldg1880_MW05	335345	2499327	26.2	R	3/11/1996	50.0	45.0–50.0	BBLAQ
Bldg1880_MW06	335286	2499202	26.8	R	3/7/1996	25.0	15.0–25.0	BBUCU, BBLAQ
Bldg1880_MW07	335336	2499239	26.7	R	3/7/1996	25.0	15.0–25.0	BBUCU, BBLAQ
Bldg1880_TW08	335430	2499295	26.8	DEM	3/7/1996	23.5	20.2–23.5	BBLCU, BBLAQ
Bldg1919-1_MW01	345830	2490240	12.8	R	8/5/1994	16.2	6.2–16.2	BBLAQ
Bldg1919-1_MW02	345835	2490258	12.9	R	8/5/1994	16.3	6.3–16.3	BBLAQ
Bldg1919-1_MW03	345830	2490249	12.8	R	8/5/1994	16.3	6.3–16.3	BBLAQ
Bldg1919-2_MW01	345911	2490285	12.4	DEM	9/24/2001	18.0	3.0–18.0	BBLAQ
Bldg1932_MW01	356041	2495062	15.4	R	6/22/1994	13.5	3.2–13.2	BBLAQ
Bldg1932_MW02	356036	2485035	16.2	R	6/22/1994	15.7	5.4–15.4	BBLAQ
Bldg1932_MW03	356058	2495042	15.6	R	6/22/1994	19.1	5.0–19.1	BBLAQ
Bldg5400_PZ01, AKA Bldg5400_GP03	353754	2495810	30.9	R	8/1/1996	8.0	3.0–8.0	BBUAQ
Bldg5400_PZ02, AKA Bldg5400_GP05	353697	2495782	31.0	R	8/1/1996	8.2	3.2–8.2	BBUAQ
Bldg5400_PZ03, AKA Bldg5400_GP13	353704	2495835	31.2	R	8/1/1996	8.0	3.0–8.0	BBUAQ
Bldg5400_PZ04, AKA Bldg5400_GP15	353646	2495827	31.0	R	8/1/1996	8.1	3.1–8.1	BBUAQ
BldgFC40_TW01	334363	2506578	27.3	DEM	3/17/2003	10.5	0.5–10.0	BBUAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgFC102_MW01 (new)	333482	2503486	21.8	R	10/20/1993	18.5	8.1–18.1	BBUAQ, BBUCU
BldgFC102_MW01 (old)	333444	2503463	23.3	DEM	3/24/1993	20.0	5.0–20.0	BBUAQ, BBUCU
BldgFC102_MW02 (new)	333487	2503461	22.0	R	10/21/1993	18.5	8.2–18.2	BBUAQ, BBUCU
BldgFC102_MW02 (old)	333494	2503444	21.2	DEM	3/25/1993	20.0	5.0–20.0	BBUAQ, BBUCU
BldgFC102_MW03 (new)	333460	2503472	23.1	R	10/21/1993	19.3	8.9–18.9	BBUAQ, BBUCU
BldgFC102_MW03 (old)	333490	2503479	21.1	DEM	3/24/1993	20.0	5.0–20.0	BBUAQ, BBUCU
BldgFC120_MW01	333370	2502847	24.9	DEM	3/25/1993	20.0	5.0–20.0	BBUAQ, BBUCU
BldgFC120_MW02	333386	2502869	24.3	DEM	3/25/1993	20.0	5.0–20.0	BBUAQ, BBUCU
BldgFC120_MW03	333361	2502886	25.5	DEM	3/25/1993	20.0	5.0–20.0	BBUAQ, BBUCU
BldgFC201E_E01, AKA FC201E-1	333362	2504283	19.2	C1	3/25/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
BldgFC201E_E02, AKA FC201E-2	333346	2504294	19.5	C1	3/30/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
BldgFC201E_E03, AKA FC201E-3	333340	2504280	19.5	C1	3/26/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
BldgFC201E_MW04	333321	2504238	20.5	C1	2/17/1994	14.7	4.7–14.7	BBUAQ, BBUCU
BldgFC201E_MW05	333306	2504336	20.1	C1	2/17/1994	15.0	5.0–15.0	BBUAQ, BBUCU
BldgFC201E_MW06	333367	2504322	19.3	C1	2/17/1994	13.0	3.0–13.0	BBUAQ, BBUCU
BldgFC201E_MW07	333411	2504321	17.6	C1	2/18/1994	13.0	3.0–13.0	BBUAQ, BBUCU
BldgFC201E_MW08	333406	2504266	17.8	C1	2/18/1994	13.0	3.0–13.0	BBUAQ, BBUCU
BldgFC201E_MW09	333413	2504206	17.4	C1	2/18/1994	13.0	3.0–13.0	BBUAQ, BBUCU
BldgFC201E_MW10	333405	2504271	17.7	C1	2/23/1994	50.0	45.0–50.0	BBLAQ
BldgFC201E_MW11	333574	2504263	16.0	C1	3/21/1994	13.0	3.0–13.0	BBUAQ, BBUCU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgFC201E_MW12	333549	2504390	17.0	C1	3/21/1994	13.0	3.0–13.0	BBUAQ, BBUCU
BldgFC201E_MW13	333406	2504482	19.8	C1	3/18/1994	13.0	3.0–13.0	BBUAQ
BldgFC201E_MW14	333201	2504297	23.1	C1	3/17/1994	15.0	5.0–15.0	BBUAQ
BldgFC201E_MW15	333275	2504170	21.6	C1	3/17/1994	15.0	5.0–15.0	BBUAQ
BldgFC201E_MW16	333448	2504132	16.4	C1	3/18/1994	13.0	3.0–13.0	BBUAQ, BBUCU
BldgFC201E_PW01	333374	2504284	20.1	DEM	3/30/1995	33.0	1.5–33.0	BBUCU, BBLAQ
BldgFC201W_MW01	333373	2504174	20.1	DEM	3/31/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
BldgFC201W_MW02	333372	2504159	20.2	DEM	3/31/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
BldgFC201W_MW03	333355	2504165	20.1	DEM	3/31/1993	20.0	5.0–20.0	BBUAQ, BBUCU, BBLAQ
BldgFC251_MW01 (new)	332319	2504263	27.1	C1	4/4/1995	22.0	12.0–22.0	BBUAQ, BBUCU
BldgFC251_MW01 (old)	332552	2504401	28.6	R	8/4/1994	24.0	13.7–23.7	BBUAQ, BBUCU
BldgFC251_MW02 (new)	332610	2504385	30.1	C1	4/6/1995	21.0	11.0–21.0	BBUAQ, BBUCU
BldgFC251_MW02 (old)	332509	2504382	28.1	R	8/5/1994	23.0	12.7–22.7	BBUAQ, BBUCU
BldgFC251_MW03 (new)	332428	2504557	24.4	C1	4/11/1995	23.5	13.5–23.5	BBUAQ, BBUCU
BldgFC251_MW03 (old)	332540	2504365	28.4	R	8/5/1994	23.0	12.7–22.7	BBUAQ, BBUCU
BldgFC251_MW04	332711	2504348	28.2	C1	4/12/1995	23.5	13.5–23.5	BBUAQ, BBUCU
BldgFC251_MW05	332473	2504236	27.7	C1	4/14/1995	23.5	13.5–23.5	BBUAQ, BBUCU
BldgFC251_MW06	332312	2504275	27.7	C1	4/12/1995	50.0	45.0–50.0	BBLAQ
BldgFC251_MW07	332541	2504350	27.7	C1	4/11/1995	50.0	45.0–50.0	BBLAQ
BldgFC251_MW08	332529	2504359	28.0	C1	4/5/1995	40.0	5.0–40.0	BBUAQ, BBUCU, BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgFC263_MW01	332081	2504450	20.0	C1	2/21/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW02	332010	2504811	23.1	C1	2/14/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW03	331892	2504581	22.4	C1	2/14/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW04	332117	2504737	21.5	C1	2/22/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW05	331786	2504800	22.0	C1	2/22/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW06	331702	2504632	22.3	C1	2/22/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW07	331841	2504506	22.4	C1	2/23/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW08	332002	2504462	21.1	C1	2/23/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW09	332015	2504334	16.0	C1	2/23/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW10	331901	2504931	22.4	C1	2/24/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW11	332006	2504753	22.8	C1	2/24/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW12	331928	2504678	23.0	C1	3/2/1995	20.0	10.0–20.0	BBUAQ, BBUCU
BldgFC263_MW13	331706	2504639	22.3	C1	2/27/1995	50.0	45.0–50.0	BBLAQ
BldgFC263_MW14	332124	2504732	21.5	C1	3/1/1995	50.0	45.0–50.0	BBLAQ
BldgFC263_MW15	331932	2504684	22.9	C1	3/3/1995	50.0	45.0–50.0	BBLAQ
BldgFC263_MW16	331940	2504681	23.1	C1	3/7/1995	39.0	9.0–39.0	BBUAQ, BBLAQ
BldgFC280_MW01	333576	2505522	23.0	DEM	8/15/1997	12	2.0–12.0	BBUAQ
BldgFC281_MW01	333623	2506017	24.8	DEM	8/12/1999	14.0	4.0–14.0	BBUAQ
BldgH19_MW01	341413	2489976	11.1	C1	3/6/1995	13.4	3.4–13.4	BBUAQ, BBUCU, BBLAQ
BldgH19_MW02	341409	2490000	11.1	C1	3/6/1995	10.9	5.9–10.9	BBUCU
BldgH19_MW03	341408	2490011	11.4	C1	3/7/1995	11.1	6.1–11.1	BBUCU
BldgH19_MW04	341429	2490024	11.9	C1	3/6/1995	13.4	3.4–13.4	BBUAQ, BBUCU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgH19_MW05	341392	2490027	11.4	C1	3/7/1995	13.4	3.4–13.4	BBUAQ, BBUCU
BldgH19_MW06	341401	2490043	11.7	C1	3/7/1995	12.9	2.9–12.9	BBUAQ, BBUCU
BldgH19_MW07	341371	2490017	10.7	C1	3/7/1995	13.3	3.3–13.3	BBUAQ, BBUCU
BldgH19_MW08	341369	2489969	10.0	C1	3/12/1997	13.8	3.8–13.8	BBUAQ, BBUCU, BBLAQ
BldgH19_MW09	341325	2490006	10.2	C1	3/21/1997	13.9	3.9–13.9	BBUAQ, BBUCU, BBLAQ
BldgH19_MW10	341305	2490070	10.4	C1	3/21/1997	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
BldgH19_MW11	341301	2490071	10.5	C1	3/24/1997	40.0	35.0–40.0	TTAQ
BldgH19_MW12	341309	2490123	11.1	C1	3/25/1997	14.0	4.0–14.0	BBUAQ, BBUCU
BldgH19_MW13	341385	2490037	10.9	C1	3/25/1997	40.0	35.0–40.0	TTAQ
BldgH19_MW14	341358	2490112	11.6	C1	3/12/1997	14.1	4.1–14.1	BBUAQ, BBUCU, BBLAQ
BldgH28_MW01	341600	2490503	12.0	R	5/13/1992	16.3	6.5–16.3	BBUCU, BBLAQ
BldgH28_MW02	341532	2490561	12.5	R	5/13/1992	16.1	6.4–16.1	BBUAQ, BBUCU, BBLAQ
BldgH28_MW03	341491	2490534	12.8	R	5/14/1992	16.0	6.3–16.0	BBUAQ, BBUCU, BBLAQ
BldgH28_MW04	341469	2490493	12.9	R	5/13/1992	16.3	6.7–16.3	BBUAQ, BBUCU, BBLAQ
BldgH28_MW05	341475	2490465	12.6	R	5/15/1992	16.3	6.6–16.3	BBUAQ, BBUCU, BBLAQ
BldgH28_MW06	341524	2490456	12.2	R	5/15/1992	16.5	6.8–9.7	BBUAQ, BBUCU
BldgH28_MW07	341552	2490454	11.9	R	5/15/1992	11.9	6.5–9.7	BBUAQ, BBUCU
BldgH28_MW08, AKA BldgH28_HA03	341527	2490477	12.1	C1	8/28/1991	12.5	2.5–12.5	BBUAQ, BBUCU
BldgH28_MW09, AKA BldgH28_HA02	341529	2490493	12.2	C1	8/28/1991	12.5	2.5–12.5	BBUAQ, BBUCU
BldgH28_MW10, AKA BldgH28_HA01	341561	2490515	11.6	C1	8/28/1991	12.0	2.5–12.0	BBUAQ, BBUCU
BldgH28_MW11	341521	2490483	11.6	C1	8/12/1999	14.0	4.0–14.0	BBUAQ, BBUCU
BldgH30_MW01	341377	2491946	8.3	C1	4/8/1993	9.5	2.5–9.5	BBLAQ
BldgH30_MW02	341366	2491926	9.2	C1	4/8/1993	9.5	2.5–9.5	BBLAQ
BldgH30_MW03	341399	2491927	5.0	C1	4/8/1993	8.0	2.0–8.0	BBLAQ
BldgH30_MW05	341373	2491944	9.2	C1	4/14/1995	30.0	25.0–30.0	BBLAQ
BldgH30_MW06	341426	2491897	2.7	C1	4/14/1995	27.0	22.0–27.0	BBLAQ
BldgH30_MW07	341400	2491884	4.0	C1	4/19/1995	12.0	2.0–12.0	BBUAQ, BBUCU
BldgH30_MW08	341431	2491898	2.6	C1	4/17/1995	12.0	2.0–12.0	BBUAQ, BBUCU
BldgH30_MW09	341435	2491922	2.5	C1	4/17/1995	12.0	2.0–12.0	BBUAQ, BBUCU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgH30_MW10	341436	2491950	2.3	C1	4/17/1995	12.0	2.0–12.0	BBUAQ, BBUCU
BldgH30_MW11	341421	2491975	2.7	C1	4/17/1995	12.0	2.0–12.0	BBUAQ, BBUCU
BldgH30_MW12	341382	2491928	7.1	C1	8/12/1999	14.0	3.0–13.0	BBUAQ, BBUCU
BldgH30_PW04	341406	2491927	4.3	C1	4/13/1995	10.0	2.0–10.0	BBUAQ, BBUCU
BldgH31_MW01	341130	2491921	17.4	DEM	7/20/2001	20.0	10.0–20.0	BBUAQ, BBUCU
BldgHP100_PZ01	340621	2494486	19.8	DEM	9/30/1998	17.2	12.2–17.2	BBUCU
BldgHP100_PZ02	340628	2494505	20.1	DEM	9/30/1998	18.4	13.4–18.4	BBUCU
BldgHP100_PZ03	340634	2494524	19.9	DEM	9/30/1998	18.4	13.4–18.4	BBUCU
BldgHP100_PZ04	340652	2494525	19.8	DEM	9/30/1998	19.0	9.0–19.0	BBUCU
BldgHP100_PZ05	340659	2494492	19.9	DEM	9/30/1998	18.2	8.2–18.2	BBUCU
BldgHP100_PZ06	340642	2494472	19.8	DEM	9/30/1998	19.3	9.3–19.3	BBUCU
BldgHP100_PZ07	340629	2494481	19.8	DEM	9/30/1998	18.8	8.8–18.8	BBUCU
BldgHP100_PZ08	340621	2494470	19.9	DEM	9/30/1998	18.6	8.6–18.6	BBUCU
BldgHP250_MW01	338414	2494164	20.2	DEM	8/14/1997	15.0	5.0–15.0	BBLAQ
BldgLCH4015_MW01	359418	2498763	33.8	R	11/1/1994	14.9	4.9–14.9	BBLAQ, BBLCU
BldgLCH4015_MW02	359406	2498671	33.1	R	11/1/1994	12.3	2.3–12.3	BBLAQ, BBLCU
BldgLCH4015_MW03	359316	2498658	33.2	R	11/1/1994	12.1	2.1–12.1	BBLAQ, BBLCU
BldgLCH4015_MW04	359298	2498767	33.4	R	11/1/1994	11.9	1.9–11.9	BBLAQ, BBLCU
BldgLCH4015_MW05	359470	2498579	33.3	R	11/2/1994	11.7	1.7–11.7	BBLAQ, BBLCU
BldgLCH4015_MW06	359579	2498605	32.2	C1	6/14/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW07	359549	2498885	32.7	C1	6/13/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW08	359237	2498717	31.5	C1	6/14/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW09	359285	2498648	31.2	C1	6/13/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW10	359365	2498558	31.2	C1	6/14/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW11	359683	2498682	32.0	C1	6/14/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW12	359763	2498768	32.6	C1	6/28/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW13	359756	2498774	32.7	C1	6/26/1995	50.0	45.0–50.0	TTAQ
BldgLCH4015_MW14	359689	2498847	32.3	C1	6/28/1995	12.5	2.5–12.5	BBLAQ, BBLCU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgLCH4015_MW15	359622	2498955	32.2	C1	6/28/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW16	359441	2498871	32.6	C1	6/28/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW17	359374	2498810	32.8	C1	6/29/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW18	359524	2498761	33.0	C1	6/15/1995	12.5	2.5–12.5	BBLAQ, BBLCU
BldgLCH4015_MW19	359521	2498765	32.9	C1	6/15/1995	50.0	45.0–50.0	TTAQ
BldgLCH4015_MW20	359412	2498673	32.4	C1	6/20/1995	50.0	45.0–50.0	TTAQ
BldgLCH4015_MW21	359517	2498758	33.1	C1	6/6/2001	31.5	26.5–31.5	TTAQ
BldgLCH4015_MW22	359410	2498679	32.5	C1	6/7/2001	32.0	27.0–32.0	TTAQ
BldgLCH4015_MW23	359413	2498754	33.0	C1	6/6/2001	32.0	27.0–32.0	TTAQ
BldgLCH4015_MW24	359356	2498619	31.5	C1	2/25/2005	14.7	4.4–14.4	BBLAQ, BBLCU
BldgLCH4022_MW01	359847	2498526	32.1	C1	3/26/1993	16.5	1.5–16.5	BBLAQ, BBLCU
BldgLCH4022_MW02	359827	2498510	31.9	C1	3/26/1993	18.0	1.0–18.0	BBLAQ, BBLCU
BldgLCH4022_MW03	359824	2498525	31.7	C1	3/26/1993	18.0	1.0–18.0	BBLAQ, BBLCU
BldgLCH4022_MW04	359825	2498706	31.2	C1	1/11/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW05	359833	2498371	29.2	C1	1/10/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW06	359726	2498559	31.3	C1	1/10/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW07	359984	2498557	29.9	C1	1/11/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW08	359922	2498488	30.6	C1	1/18/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW09	359925	2498599	31.5	C1	1/18/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW10	359799	2498612	31.9	C1	1/20/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW11	359866	2498460	28.5	C1	1/20/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW12	359874	2498506	31.4	C1	1/20/1994	12.0	2.5–12.0	BBLAQ, BBLCU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgLCH4022_MW13	359949	2498544	30.8	C1	1/21/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW14	359920	2498533	31.7	C1	1/17/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW15	359795	2498485	31.6	C1	1/21/1994	12.0	2.5–12.0	BBLAQ, BBLCU
BldgLCH4022_MW16	359917	2498537	31.7	C1	1/17/1994	18.0	16.0–18.0	BBLAQ
BldgLCH4022_MW17	359824	2498514	31.8	C1	1/14/1994	18.5	16.5–18.5	BBLAQ
BldgLCH4022_MW18	359798	2498481	31.6	C1	1/14/1994	19.0	17.0–19.0	BBLAQ
BldgLCH4022_MW19	359849	2498517	32.2	C1	1/18/1994	18.0	3.0–18.0	BBLAQ, BBLCU
BldgNH100_MW01	358424	2493669	22.8	DEM	9/25/2003	22.0	12.0–22.0	TTAQ
BldgNH100_MW02	358461	2493712	22.9	DEM	9/25/2003	22.0	12.0–22.0	TTAQ
BldgNH100_MW03	358408	2493727	24.6	DEM	9/25/2003	24.0	14.0–24.0	TTAQ
BldgNH118_MW01	358124	2494384	19.0	DEM	8/13/1997	20.0	10.0–20.0	BBLCU
BldgPP3311_TW01	343669	2492022	9.0	DEM	7/25/2002	12.0	2.0–12.0	BBLAQ
BldgPP3322_TW01	344028	2491217	7.1	DEM	7/24/2002	10.0	1.0–10.0	BBLAQ
BldgPP3332_TW01	344011	2490780	14.3	DEM	7/23/2002	12.0	2.0–12.0	BBLAQ, BBLCU
BldgPP3340_TW01	344078	2491071	13.5	DEM	7/23/2002	16.0	5.0–15.0	BBLAQ, BBLCU
BldgPP3354_TW01	344390	2490701	12.7	DEM	7/24/2002	12.0	2.0–12.0	BBLAQ, BBUCU
BldgPP3363_TW01	345059	2490393	8.0	DEM	7/22/2002	13.3	3.3–13.3	BBLAQ
BldgPT5_MW01	342236	2499221	25.7	C1	2/22/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW02	342160	2499259	25.3	C1	2/21/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW03	342350	2499283	24.4	C1	2/22/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW04	342285	2499240	21.8	C1	2/23/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW05	342184	2499052	25.4	C1	2/22/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW06	342304	2499366	25.1	C1	2/22/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW07	342275	2499130	25.1	C1	2/27/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW08	342233	2499388	26.0	C1	2/23/1995	20.0	10.0–20.0	BBUAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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	North	East						
BldgPT5_MW09	342317	2499204	24.5	C1	2/24/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW10	342343	2499368	24.9	C1	2/27/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW11	342233	2499068	25.4	C1	2/22/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW12	342250	2499304	25.3	C1	2/23/1995	20.0	10.0–20.0	BBUAQ
BldgPT5_MW13	342354	2499285	24.4	C1	2/28/1995	50.0	43.0–50.0	BBLAQ
BldgPT5_MW14	342288	2499241	25.1	C1	2/23/1995	51.0	44.0–51.0	BBLAQ
BldgPT5_MW15	342181	2499046	25.4	C1	3/1/1995	50.0	43.0–50.0	BBLAQ
BldgPT5_MW16	342238	2499230	25.3	C1	3/2/1995	40.0	20.0–40.0	BBUCU, BBLAQ
BldgPT5_MW17	342220	2499189	25.8	DEM	6/12/1996	20.2	10.2–20.2	BBUAQ
BldgPT5_MW18	342245	2499233	25.6	DEM	6/12/1996	20.2	10.2–20.2	BBUAQ
BldgPT5_RW01	342242	2499225	25.7	DEM	5/13/1997	30.0	5.0–30.0	BBUAQ, BBUCU, BBLAQ
BldgPT37_MW01	343290	2497150	21.1	DEM	6/24/1999	25.0	15.0–25.0	BBLAQ, TTAQ
BldgS688_MW01	331689	2499543	9.3	DEM	6/24/1999	12.0	2.0–12.0	BBUAQ
BldgS1856_DMW13	335657	2499674	23.3	R	5/15/1997	30.0	25.0–30.0	BBLAQ
BldgS1856_MW01	335826	2499479	22.6	R	6/7/1995	12.6	2.2–12.2	BBUAQ
BldgS1856_MW02	335815	2499459	22.9	R	6/8/1995	12.3	2.1–12.1	BBUAQ
BldgS1856_MW03	335783	2499527	22.1	R	6/8/1995	12.9	2.7–12.7	BBUAQ
BldgS1856_MW04	335777	2499501	22.4	R	6/8/1995	12.6	2.2–12.2	BBUAQ
BldgS1856_MW05	335773	2499562	21.9	R	6/7/1995	13.3	2.9–12.9	BBUAQ
BldgS1856_MW06	335746	2499539	22.7	R	6/9/1995	12.9	2.7–12.7	BBUAQ
BldgS1856_MW07	335753	2499626	21.5	R	6/9/1995	12.5	2.1–12.1	BBUAQ
BldgS1856_MW08	335705	2499580	22.8	R	6/8/1995	13.2	2.8–12.8	BBUAQ
BldgS1856_MW09	335713	2499668	22.6	R	6/9/1995	12.5	2.3–12.3	BBUAQ
BldgS1856_MW10	335684	2499625	23.2	R	6/9/1995	12.5	2.3–12.3	BBUAQ
BldgS1856_MW11	335663	2499692	23.6	R	6/9/1995	13.2	2.8–12.8	BBUAQ
BldgS1856_MW12	335657	2499666	24.0	R	6/9/1995	12.0	1.6–11.6	BBUAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
BldgS2633_MW01 (new)	351494	2487697	5.0	C1	1/12/1998	12.0	2.0–12.0	BBLAQ, BBLCU
BldgS2633_MW01 (old)	351502	2487700	5.7	DEM	7/30/1996	12.0	2.0–12.0	BBLCU
BldgS2633_MW02	351528	2487691	7.4	C1	7/30/1996	10.0	2.0–10.0	BBLAQ, BBLCU
BldgS2633_MW03	351471	2487728	6.9	C1	7/30/1996	6.5	3.0–6.5	BBLAQ
BldgS2633_MW04	351528	2487724	5.7	C1	1/15/1998	12.0	2.0–12.0	BBLAQ, BBLCU
BldgS2633_MW05	351483	2487671	8.4	C1	1/12/1998	12.0	2.0–12.0	BBLAQ, BBLCU
BldgS2633_MW06DW	351498	2487694	4.8	C1	1/14/1998	33.0	28.0–33.0	TTAQ
BldgS2633_PZ01	351483	2487712	5.7	C1	1/12/1998	12.0	2.0–12.0	BBLAQ, BBLCU
BldgS2633_PZ02	351482	2487699	2.9	C1	1/12/1998	12.0	2.0–12.0	BBLAQ, BBLCU
BldgS2633_PZ03	351502	2487689	6.5	C1	1/14/1998	12.0	2.0–12.0	BBLAQ, BBLCU
BldgS2633_PZ04	351517	2487688	6.4	C1	1/15/1998	11.0	1.0–11.0	BBLAQ, BBLCU
BldgSLCH4019_MW01	360087	2498990	31.9	R	10/18/1993	12.4	2.4–12.4	BBLAQ
BldgSLCH4019_MW02	360107	2498984	31.8	R	10/18/1993	12.6	2.6–12.6	BBLAQ
BldgSLCH4019_MW03	360111	2499009	31.9	R	10/18/1993	11.3	1.3–11.3	BBLAQ
BldgSLCH4019_MW04	360151	2499082	31.0	R	4/13/1995	50.0	45.0–50.0	TTAQ
BldgSLCH4019_MW05	360040	2498817	32.1	R	4/17/1995	12.0	2.0–12.0	BBLAQ
BldgSLCH4019_MW06	359958	2498865	32.9	R	4/17/1995	12.0	2.0–12.0	BBLAQ
BldgSLCH4019_MW07	360037	2498994	32.3	R	4/20/1995	12.5	2.5–12.5	BBLAQ
BldgSLCH4019_MW08	360166	2498907	31.6	R	4/20/1995	12.0	2.0–12.0	BBLAQ
BldgSLCH4019_MW09	360144	2499093	31.0	R	4/18/1995	12.0	2.0–12.0	BBLAQ
BldgSLCH4019_MW10	360034	2498812	32.0	R	4/19/1995	47.0	42.0–47.0	TTAQ
BldgSLCH4019_MW11	360029	2498928	32.7	DEM	7/15/1997	12.5	2.5–12.5	BBLAQ
BldgSLCH4019_MW12	360022	2498888	32.8	DEM	7/15/1997	12.5	2.5–12.5	BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
HPFF_MW01	340257	2501610	28.5	C1	11/21/1995	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW02	340199	2501767	29.5	C1	11/21/1995	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW03	340019	2502168	28.8	C1	11/21/1995	16.0	6.0–16.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW04	339386	2501999	31.0	C1	11/21/1995	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW05	339612	2501160	27.4	C1	11/21/1995	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW06	339981	2502015	28.4	C1	11/8/1995	50.0	45.0–50.0	BBLAQ
HPFF_MW07	340211	2501550	28.4	C1	11/10/1995	49.5	44.5–49.5	BBLAQ
HPFF_MW08	339789	2501730	32.5	C1	11/17/1995	49.5	44.5–49.5	BBLAQ
HPFF_MW09	339614	2501162	27.2	C1	11/16/1995	50.0	45.0–50.0	BBLAQ
HPFF_MW10	339828	2501690	32.4	C1	6/25/1997	80.0	75.0–80.0	TTAQ
HPFF_MW11	339809	2501708	32.1	C1	6/26/1997	110.0	105.0–110.0	TTAQ, TTCU
HPFF_MW12	339867	2501359	26.7	C1	6/27/1997	110.0	105.0–110.0	TTAQ, TTCU
HPFF_MW13	340106	2500518	26.1	C1	7/9/1997	110.0	105.0–110.0	TTAQ, TTCU
HPFF_MW14	339850	2501344	26.9	C1	6/25/1997	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW15	339659	2501560	27.4	C1	6/25/1997	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW16	340056	2500995	27.2	C1	6/25/1997	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW17	339858	2501207	27.6	C1	6/26/1997	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW18	339779	2500856	26.1	R	7/8/1997	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW19	339607	2501329	26.2	C1	7/8/1997	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW20	339934	2502088	28.3	C1	7/8/1997	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW21	340069	2501314	27.4	C1	1/17/2000	14.5	4.5–14.5	BBUAQ, BBUCU, BBLAQ
HPFF_MW22	340042	2501490	26.9	C1	1/17/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW23	339929	2501093	26.1	C1	1/19/2000	12.5	2.5–12.5	BBUAQ, BBUCU, BBLAQ
HPFF_MW24	339901	2501117	30.9	C1	1/19/2000	15.3	5.3–15.3	BBUAQ, BBUCU, BBLAQ
HPFF_MW25	339823	2501146	30.9	C1	1/20/2000	15.3	5.3–15.3	BBUAQ, BBUCU, BBLAQ
HPFF_MW26	339647	2501002	31.6	R	1/21/2000	15.3	5.3–15.3	BBUAQ, BBUCU, BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
HPFF_MW27	340011	2500932	30.5	R	1/28/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW28	339720	2501282	27.1	C1	1/19/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW29	339656	2501478	27.5	C1	1/21/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW30	339554	2501472	26.3	C1	1/21/2000	12.0	2.0–12.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW31	339288	2501158	28.0	C1	1/21/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW32	339169	2501038	28.7	C1	1/26/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW33	339024	2500863	30.3	C1	1/26/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW34	339220	2500685	25.7	C1	1/26/2000	15.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW35	339385	2500872	26.2	C1	1/31/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW36	339593	2500732	26.2	C1	2/2/2000	14.0	3.9–13.9	BBUAQ, BBUCU, BBLAQ
HPFF_MW37	339386	2500484	25.8	C1	2/2/2000	14.0	3.8–13.8	BBUAQ, BBUCU, BBLAQ
HPFF_MW38	339662	2502012	28.9	C1	1/31/2000	14.0	4.0–14.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW39	340219	2500180	24.2	C1	2/29/2000	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW40	339443	2501509	27.4	C1	2/9/2000	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW41	339300	2501450	29.1	C1	3/2/2000	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW42	339297	2501352	27.2	C1	3/3/2000	15.0	5.0–15.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW43	339657	2499441	22.7	C1	3/7/2002	80.0	75.0–80.0	TTAQ
HPFF_MW44	339663	2499432	22.7	C1	10/8/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW45	340193	2500149	25.0	C1	3/7/2002	80.0	75.0–80.0	TTAQ
HPFF_MW46	340216	2500150	25.1	C1	3/7/2002	150.0	145.0–150.0	LocalCU
HPFF_MW47	340208	2500129	25.0	C1	10/9/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW48	340727	2500616	23.5	C1	10/10/2001	16.0	5.0–15.0	BBUAQ
HPFF_MW49	340709	2500603	23.9	C1	2/24/2002	80.0	75.0–80.0	TTAQ
HPFF_MW50	340730	2500598	23.1	C1	10/9/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW51	340629	2500855	27.8	C1	10/10/2001	16.0	5.0–15.0	BBUAQ
HPFF_MW52	340580	2501196	28.0	C1	2/24/2002	150.0	145.0–150.0	LocalCU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
HPFF_MW53	340585	2501197	27.9	C1	10/12/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW54	340581	2501190	27.9	C1	10/10/2001	17.0	2.0–17.0	BBUAQ
HPFF_MW55	340583	2501202	28.0	C1	2/24/2002	80.0	75.0–80.0	TTAQ
HPFF_MW56	340102	2500509	26.4	C1	2/6/2002	150.0	145.0–150.0	LocalCU
HPFF_MW57	339369	2500476	26.0	C1	10/8/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW58	339890	2500999	26.3	C1	2/6/2002	80.0	75.0–80.0	TTAQ
HPFF_MW59	340220	2501522	28.0	C1	2/6/2002	80.0	75.0–80.0	TTAQ
HPFF_MW60	339869	2501342	27.4	C1	10/17/2001	150.0	145.0–150.0	LocalCU
HPFF_MW61	339887	2501360	27.5	C1	10/17/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW62	339476	2501269	27.4	C1	2/6/2002	155.0	150.0–155.0	LocalCU
HPFF_MW63	339021	2500874	27.7	C1	10/9/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW64	339668	2501566	28.1	R	10/10/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW65	339743	2501580	30.1	C1	2/6/2002	80.0	75.0–80.0	TTAQ
HPFF_MW66	339379	2501437	27.5	C1	10/9/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW67	339384	2501436	27.4	C1	2/6/2002	80.0	75.0–80.0	TTAQ
HPFF_MW68	339441	2501492	27.2	C1	10/11/2001	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
HPFF_MW69	339650	2501863	29.9	C1	10/3/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW70	339398	2501988	30.8	C1	10/3/2001	50.0	45.0–50.0	BBLAQ
HPFF_MW71	339389	2501979	30.7	C1	2/6/2002	80.0	75.0–80.0	TTAQ
HPFF_MW72	339378	2501447	28.0	C1	3/6/2002	30.0	18.0–30.0	BBLAQ
HPFF_MW73	340389	2499685	24.4	C1	4/15/2003	50.0	45.0–50.0	BBLAQ
HPFF_MW74	340383	2499680	24.5	C1	4/16/2003	80.0	75.0–80.0	TTAQ
HPFF_MW75	339802	2501429	27.4	C1	3/31/2003	80.0	55.0–75.0	TTAQ
HPFF_MW76	339379	2499879	23.2	C1	4/18/2003	50.0	45.0–50.0	BBLAQ
HPFF_MW77	338886	2501330	29.3	C1	4/10/2003	50.0	45.0–50.0	BBLAQ
HPFF_MW78	339684	2501541	28.1	C1	11/5/2003	159.0	139.0–159.0	UCHRBU, LocalCU
HPFF_RW05	N/A	N/A	N/A	N/A	10/16/1998	25	5.0–25.0	BBUAQ, BBUCU, BBLAQ
HPFF_SP100	339781	2501589	30.9	DEM	11/25/2003	160.0	140.0–160.0	UCHRBU, LocalCU
MRFF_MW01	340119	2502204	29.1	R	3/4/2005	15.0	5.0–15.0	BBUAQ, BBUCU
MRFF_MW02	340125	2502230	28.7	R	3/4/2005	15.0	5.0–15.0	BBUAQ, BBUCU
MRFF_MW03	340112	2502303	29.9	DEM	N/A	N/A	N/A	N/A
TankS781_MW01 (O&G)	361436	2495348	17.7	DEM	12/4/1991	20.0	5.0–20.0	BBLAQ, BBLCU
TankS781_MW02 (O&G)	361436	2495348	17.7	DEM	12/5/1991	30.0	20.0–30.0	TTAQ
TankS781_MW03 (O&G)	361430	2495235	14.9	DEM	12/4/1991	15.0	5.0–15.0	BBLAQ, BBLCU

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
TankS781_MW04 (O&G)	361430	2495235	14.9	DEM	12/5/1991	30.0	20.0–30.0	TTAQ
TankS781_MW05 (O&G)	361589	2495398	16.0	DEM	12/5/1991	15.0	5.0–15.0	BBLAQ, BBLCU
TankS781_MW06 (O&G)	361589	2495398	16.0	DEM	12/6/1991	30.0	20.0–30.0	TTAQ
TankS781_MW07 (O&G)	361717	2495105	7.1	DEM	12/6/1991	15.0	5.0–15.0	BBLAQ
TankS781_MW08 (O&G)	361717	2495105	7.1	DEM	12/6/1991	30.0	20.0–30.0	TTAQ
TankS781_MW09 (O&G)	361217	2494823	10.6	DEM	12/9/1991	15.0	5.0–15.0	BBLAQ
TankS781_MW10 (O&G)	361217	2494823	10.6	DEM	12/9/1991	30.0	20.0–30.0	TTAQ
TankS781_MW11 (O&G)	361168	2495225	16.3	DEM	12/9/1991	15.0	5.0–15.0	BBLAQ, BBLCU
TankS781_MW12 (O&G)	361168	2495225	16.3	DEM	12/10/1991	30.0	20.0–30.0	TTAQ
TankS781_MW13 (O&G)	361610	2494936	5.9	DEM	12/11/1991	12.0	2.0–12.0	BBLAQ
TankS781_MW14 (O&G)	361610	2494936	5.9	DEM	12/10/1991	27.0	17.0–27.0	TTAQ
TankS781_MWA (D&D) AKA MPMW-1	361523	2495253	11.3	R	11/27/1990	23.0	8.0–23.0	BBLAQ
TankS781_MWB (D&D) AKA MPMW-2	361560	2495277	11.7	R	11/28/1990	18.0	5.0–18.0	BBLAQ
TanksS889&S891_MW01D	350341	2501011	23.0	DEM	11/24/1991	33.0	23.0–33.0	BBLAQ
TanksS889&S891_MW01S	350341	2501011	23.0	DEM	11/24/1991	20.0	10.0–20.0	BBUCU, BBLAQ
TanksS889&S891_MW02D	350209	2501001	22.0	DEM	11/24/1991	33.0	23.0–33.0	BBLAQ
TanksS889&S891_MW02S	350209	2501001	22.0	DEM	11/24/1991	20.0	10.0–20.0	BBUCU, BBLAQ
TanksS889&S891_MW03D	350282	2501097	22.3	DEM	11/24/1991	33.0	23.0–33.0	BBLAQ
TanksS889&S891_MW03S	350282	2501097	22.3	DEM	11/24/1991	20.0	10.0–20.0	BBUCU, BBLAQ
TanksS889&S891_MW04D	350110	2501069	20.6	DEM	11/24/1991	33.0	23.0–33.0	BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
TanksS889&S891_MW04S	350110	2501069	20.6	DEM	11/24/1991	20.0	10.0–20.0	BBUCU, BBLAQ
TanksS889&S891_MW05D	350022	2501033	20.1	DEM	11/23/1991	33.0	23.0–33.0	BBLAQ
TanksS889&S891_MW05S	350022	2501033	20.1	DEM	11/23/1991	20.0	10.0–20.0	BBUCU, BBLAQ
TanksS889&S891_MW06D	350070	2501178	18.5	DEM	11/23/1991	33.0	23.0–33.0	BBLAQ
TanksS889&S891_MW06S	350070	2501178	18.5	DEM	11/23/1991	20.0	10.0–20.0	BBUCU, BBLAQ
TanksS889&S891_MW07D	349988	2501137	17.1	DEM	11/24/1991	33.0	23.0–33.0	BBLAQ
TanksS889&S891_MW07S	349988	2501137	17.1	DEM	11/24/1991	20.0	10.0–20.0	BBUCU, BBLAQ
HPGW22-1	339740	2501585	29.0	R	1984	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
HPGW22-2	340154	2501031	26.2	R	1984	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MWA	340107	2501503	28.6	R	Before 6/ /1997	14	4.0–14.0	BBUAQ
IRP22_MW01	339573	2501718	28.3	R	2/24/1988	17.0	7.0–17.0	BBUAQ
IRP22_MW02	339809	2501960	30.0	R	2/24/1988	18.0	7.0–17.0	BBUAQ
IRP22_MW03	339367	2501802	29.0	R	2/25/1988	15.0	5.0–15	BBUAQ
IRP22_MW04	339588	2502080	29.8	R	2/25/1988	15.0	5–15.0	BBUAQ
IRP22_MW05	339792	2501434	28.5	R	2/25/1988	15.0	5–15.0	BBUAQ
IRP22_MW06	340026	2501789	27.8	R	3/1/1988	17.0	5–15.0	BBUAQ
IRP22_MW07R	340071	2501495	28.4	R	3/1/1988	17.0	5–15.0	BBUAQ
IRP22_MW08R	339959	2501383	27.8	R	3/1/1988	17.0	5–15.0	BBUAQ
IRP22_MW09	339116	2501482	28.8	R	2/25/1988	15.0	5–15.0	BBUAQ
IRP22_MW-10R	339835	2501814	34.0	R	Before 6/ /1997	18.5	7–17	BBUAQ
IRP22_MW11 AKA BOGW11	340014	2501237	26.5	R	3/2/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW12 AKA BOGW12	340158	2501386	26.9	R	3/7/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW13	340281	2501716	28.8	R	3/9/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW14	339578	2501217	27.7	R	3/8/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
IRP22_MW16	339951	2501560	28.4	R	3/10/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW17	339717	2501638	29.5	R	3/9/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW18	339635	2501874	29.9	R	3/11/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW19	339838	2502137	29.4	R	3/14/1988	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW20 AKA BOMW20	340181	2501167	26.8	R	1989?	25.0	4.0–24.0	BBUAQ, BBUCU, BBLAQ
IRP22_MW21	340352	2501585	26.7	R	12/14/1989	19.0	9.0–19.0	BBUAQ, BBUCU
IRP22_RW01	339830	2501477	28.6	R	12/12/1989	35.0	9.0–34.0	BBUAQ, BBUCU, BBLAQ
IRP22_RW02	339541	2501714	29.0	R	12/13/1989	34.0	8.0–33.0	BBUAQ, BBUCU, BBLAQ
IRP22_RW03	339667	2501909	29.9	R TOC	1991	unknown	unknown	BBUAQ, BBUCU, BBLAQ(?)
IRP22_RW04	340097	2501417	24.7	R TOC	1991	> 29.9	unknown	BBUAQ, BBUCU, BBLAQ
IRP78_GW05	338211	2499027	26.5	R	11/4/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW06	338630	2498850	25.5	R	11/18/1986	25.0	5.0–25.0	BBUAQ, BBUCU
IRP78_GW07	338538	2499392	25.7	R	11/18/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW12	338457	2500632	27.7	R	11/18/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW13	339567	2499458	23.6	R	11/17/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW14	339391	2499956	25.1	R	11/5/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW15	339109	2500535	26.8	R	11/6/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW16	339006	2501332	30.2	R	11/19/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW17-1	339371	2500975	27.9	R	11/6/1986	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW17-2	339198	2501229	29.7	R	6/24/1987	73.3	53.3–73.3	BBLCU, TTAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing (TOC) altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
IRP78_GW18	339766	2500665	27.0	R	11/19/1986	25.0	N/A	BBUAQ (?), BBUCU, BBLAQ
IRP78_GW19	340220	2500628	27.0	R	11/6/86	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW20	340704	2500752	22.8	R	11/6/86	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW21	339539	2502400	31.4	R	11/10/86	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW22A	340372	2502763	30.4	R	1995?	N/A	N/A	BBUAQ (?), BBUCU (?), BBLAQ(?)
IRP78_GW23	340686	2502468	30.3	R	11/5/86	25.0	5.0–25.0	BBUAQ, BBUCU, BBLAQ
IRP78_GW31-2	339118	2500537	26.5	R	12/ /1990	78.0	65.0–78.0	TTAQ
IRP78_GW31-3	338983	2500417	26.4	R	12/ /1990	153.0	140.0–153.0	LocalCU
IRP78_GW32-2	339494	2501261	27.0	R	12/ /1990	77.0	64.0–77.0	TTAQ
IRP78_GW32-3	339474	2501278	27.3	R	12/ /1990	153.0	140.0–153.0	UCHRBU
IRP78-GW79IW	341039	2499531	22.9	R	1/18/2010	60.0	50.0–60.0	TTAQ
IRP78-GW80DW	340715	2499870	23.0	R	1/21/2010	80.0	70.0–80.0	UCHCU
IRP78-GW80IW	340722	2499878	23.0	R	1/22/2010	60.0	50.0–60.0	TTAQ
IRP78-GW81DW	340565	2499239	21.4	R	1/19/2010	80.0	70.0–80.0	UCHCU
IRP78-GW81IW	340572	2499231	21.2	R	1/20/2010	60.0	50.0–60.0	TTAQ
IRP78-GW82IW	340974	2499126	23.4	R	1/20/2010	60.0	50.0–60.0	TTAQ
IRP78-GW83IW	339421	2498040	19.5	R	1/22/2010	60.0	50.0–60.0	TTAQ
IRP78-GW84IW	341786	2502765	29.1	R	2/15/2011	60.0	50.0–60.0	BBLCU
IRP78-GW85	341056	2502227	27.1	R	2/14/2011	20.0	7.0–14.0	BBUAQ
IRP78-GW85IW	341049	2502221	26.6	R	2/16/2011	60.0	50.0–60.0	BBLAQ
IRP78-GW86DW	338144	2499633	28.5	R	2/16/2011	100.0	95.0–105.0	UCHCU
IRP78-GW87MCH	341004	2502587	29.0	R	7/27/2011	80.0	70.0–80.0	TTAQ
IRP78-GW88UCH	340684	2502489	29.0	R	8/2/2011	40.0	30.0–40.0	BBLCU
IRP78-GW89MCH	341444	2501750	27.1	R	9/1/2011	70.0	60.0–70.0	TTAQ
IRP78-GW90MCH	341443	2501745	27.1	R	8/31/2011	110.0	100.0–110.0	UCHRBU
IRP78-GW91LCH	341445	2501755	27.3	R	8/24/2011	150.0	140.0–150.0	LocalCU
IRP78-GW92MCH	341164	2501532	27.7	R	8/14/2011	70.0	60.0–70.0	TTAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Finished well depth, in feet	Screened interval, in feet below land surface	Contributing aquifer or confining unit
	North	East						
IRP78-GW93MCH	341160	2501533	27.7	R	8/14/2011	110.0	100.0–110.0	UCHRBU
IRP78-GW94LCH	341162	2501537	27.6	R	8/9/2011	150.0	140.0–150.0	LocalCU
IRP78-GW95MCH	341991	2502056	28.2	R	8/22/2011	70.0	60.0–70.0	TTAQ
IRP78-GW96MCH	341993	2502045	28.4	R	8/16/2011	110.0	100.0–110.0	UCHRBU
IRP78-GW97LCH	341992	2502051	28.3	R	8/14/2011	150.0	140.0–150.0	LocalCU
IRP78-GW98MCH	341452	2502448	28.8	R	7/26/2011	90.0	80.0–90.0	UCHCU
IRP78-GW99MCH	341272	2503047	28.3	R	7/26/2011	80.0	70.0–80.0	TTAQ
IRP78-GW100MCH	341159	2502225	30.0	R	7/30/2011	70.0	60.0–70.0	TTAQ
IRP78-GW101MCH	340928	2502008	28.7	R	7/28/2011	70.0	60.0–70.0	TTAQ
IRP78-GW102MCH	341688	2501084	25.2	R	8/2/2011	70.0	60.0–70.0	TTAQ
IRP78-GW103MCH	341689	2501079	25.2	R	8/1/2011	110.0	100.0–110.0	UCHRBU
IRP78-GW104LCH	341686	2501088	25.1	R	7/29/2011	150.0	140.0–150.0	UCHLU
IRP78-GW105MCH	337887	2499686	24.4	R	8/25/2011	80.0	70.0–80.0	TTAQ
IRP78-GW106MCH	337883	2499689	24.4	R	8/23/2011	110.0	100.0–110.0	UCHCU
IRP78-GW107	337389	2499292	27.9	R	8/13/2011	30.0	20.0–30.0	BBUAQ
IRP78-GW108UCH	337384	2499289	27.8	R	8/11/2011	60.0	50.0–60.0	BBLAQ
IRP78-GW109UCH	337561	2499579	26.7	R	7/29/2011	60.0	50.0–60.0	BBLAQ
IRP78-GW110MCH	336379	2498231	27.2	R	8/10/2011	90.0	80.0–90.0	TTAQ
IRP78-GW111MCH	336853	2497697	25.8	R	8/1/2011	90.0	80.0–90.0	TTAQ
IRP78-GW112MCH	336261	2498847	26.7	R	8/9/2011	90.0	80.0–90.0	TTAQ
IRP78_RW10N	340676	2502626		DEM	Before 7/ /1995	35.0	15.0–35.0	BBLAQ

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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¹ See Faye et al. 2010 (Plate 1) for site locations. Names in parentheses after some of the site names refer to corporations or companies who installed the well

² Location coordinates are North Carolina State Plane coordinates, North American Datum of 1983

Data sources

Building 20	Law Engineering and Environmental Services, Inc. 2000f (UST#49)
Building 21	ATEC Environmental Consultants, Inc. 1992c (UST#36); Baker Environmental, Inc. 1993c (UST#45), 1994a (UST#39); Law Engineering and Environmental Services, Inc. 2000h (UST#51)
Building 24	Law Engineering and Environmental Services, Inc. 2002a (UST#390)
Building 30	Osage of Virginia, Inc. 2007 (UST#30_2007ROF_SOILSAMPLING), 2008 (UST#30_2008ROF_FINAL)
Building 33	Law Engineering, Inc. 1996a (UST#67); R.E. Wright Associates, Inc. 1994c (UST#59)
Building 45/IR Site 84	ATEC Environmental Consultants, Inc. 1992b (UST#730); Engineering and Environment, Inc. 2005a (UST#45_2005MON); Environmental and Safety Designs, Inc. 1995 (CERCLA#125); Law Engineering and Environmental Services, Inc. 1996d (UST#742); Law Engineering, Inc. 1994a (UST#737); R.E. Wright Associates, Inc. 1994a (UST#740); Sovereign Consulting, Inc. 2006b (UST#BLDG45_2006AMR)
Building 61	R.E. Wright Associates, Inc. 1994d (UST#64)
Building 311	Law Engineering and Environmental Services, Inc. 2000e (UST#230)
Building 331	Law Engineering, Inc. 1996b (UST#63)
Building 575	Catlin Engineers and Scientists 1997 (UST #20070802_010)
Building 645	Catlin Engineers and Scientists 2008 (UST#645_ADDL_SITEASSESS); J.A. Jones Environmental Services Company 2001b (UST#718); R.E. Wright Associates, Inc. 1994b (UST#728); Richard Catlin and Associates, Inc. 1995a (UST#717), 1996b (UST#710); Sovereign Consulting, Inc. 2007a (UST#BLDG645FINALAMR2007), 2008b (UST#645_2008FINALAMR)
Building 728	Versar, Inc. 1992 (UST#735)
Building 820	Catlin Engineers and Scientists 2006a (UST#ILM00450), 2006c (UST#RAO_820); Law Engineering, Inc. 1995c (UST#543), 1995a (UST#715); OHM Remediation Services Corp 2000d (UST#539), 2002b (UST#528); Shaw Environmental, Inc. 2005d (UST#SOIL_CONTAMINATION_REPORT_BLDG_820_6-05), 2007b (UST#820_2007AMR)
Building 900	Baker Environmental, Inc. and CH2M Hill Inc. 2002a (CERCLA#3273); Engineering and Environment, Inc. 2006b (UST#900_2005MON); Law Engineering and Environmental Services, Inc. 1997d (UST#716); R.E. Wright Environmental, Inc. 1996 (UST#529); Sovereign Consulting, Inc. 2007b (UST#900AMRFinal2007); U.S. Marine Corps Camp Lejeune 2000 (UST#1073)
Building 903	Groundwater Technology Government Services, Inc. 1993b (UST#70); S&ME, Inc. 1998a (UST#71)
Building 1101	Catlin Engineers and Scientists 2002c (UST#370); Shaw Environmental, Inc. 2009d (UST#HPFF_2009FinalAMR_Shaw); U.S. Marine Corps Camp Lejeune 2003a (UST#1185)
Building 1106	Law Engineering and Environmental Services, Inc. 1997b (UST#68)
Building 1115	Catlin Engineers and Scientists 1998b (UST#456), 2002d (UST#677); Groundwater Technology Government Services, Inc. 1993a (UST#383); Richard Catlin and Associates, Inc. 1998a (UST#410), 1998b (UST#408); Shaw Environmental, Inc. 2009d (UST#HPFF_2009FinalAMR_Shaw)
Building 1310	R.E. Wright Associates, Inc. 1994e (UST#76)
Building 1323	Law Engineering and Environmental Services, Inc. 2000d (UST#392); Mid-Atlantic Associates, Inc. 2003b (UST#405)
Building 1450	Law Engineering and Environmental Services, Inc. 1997e (UST#78), 2000c (UST#187)
Building 1502	Law Engineering and Environmental Services, Inc. 2002b (UST#532); OHM Remediation Services Corp. 2001f (UST#417); R.E. Wright Environmental, Inc. 1995d (UST#163); Richard Catlin and Associates, Inc. 1997a (UST#195)
Building 1607	R.E. Wright Associates, Inc. 1994f (UST#724); S&ME, Inc. 1998c (UST#723)
Building 1613/IR Site 94	OHM Remediation Services Corp. 2001d (UST#550); Richard Catlin and Associates, Inc. 1996a (CERCLA#76, CERCLA #90, UST#548), 1998c (UST#546); Sovereign Consulting, Inc. 2008c (UST#1613FINALAMR2008)

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

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Building 1817	Catlin Engineers and Scientists 1997 (UST#20070802_010)
Building 1854	Richard Catlin and Associates, Inc. 1996c (UST#99)
Building 1880	Law Engineering and Environmental Services, Inc. 1996i (UST#86)
Building 1919-1	Law Engineering and Environmental Services, Inc. 2001b (UST#391); R.E. Wright Associates, Inc. 1994g (UST#485)
Building 1919-2	Law Engineering and Environmental Services, Inc. 2000d (UST#392)
Building 5400	Law Engineering and Environmental Services, Inc. 1997f (UST#180)
Building FC40	Catlin Engineers and Scientists 2003b (UST#116)
Building FC102	Groundwater Technology Government Services, Inc. 1993c (UST#267); R.E. Wright Associates, Inc. 1994i (UST#261)
Building FC120	Groundwater Technology Government Services, Inc. 1993d (UST#268)
Building FC201	Groundwater Technology Government Services, Inc. 1993e (UST#693), 1993f (UST#269); Law Engineering, Inc. 1994b (UST#750); Richard Catlin and Associates, Inc. 1995d (UST#377)
Building FC251	R.E. Wright Associates, Inc. 1994k (UST#263); Richard Catlin and Associates, Inc. 1996d (UST#276)
Building FC263	Richard Catlin and Associates, Inc. 1995c (UST#139)
Building FC280	Catlin Engineers and Scientists 1997 (UST#20070802_010)
Building FC281	Law Engineering and Environmental Services, Inc. 2000g (UST#155)
Building H19	Law Engineering and Environmental Services, Inc. 1997g (UST#374); R.E. Wright Environmental, Inc. 1995b (UST#755)
Building H28	ATEC Environmental Consultants, Inc. 1992a (UST#761); Baker Environmental, Inc. 1994b (UST#571); Engineering and Environment, Inc. 2003 (UST#482); Law Engineering and Environmental Services, Inc. 2000i (UST#403), 2001d (UST#20070727_002); Sovereign Consulting, Inc. 2007c (UST#H28AMRFINAL2007)
Building H30	Groundwater Technology Government Services, Inc. 1993g (UST#756); Law Engineering and Environmental Services, Inc. 1996h (UST#758), 2001e (UST#759)
Building H31	Catlin Engineers and Scientists 2001a (UST#384)
Building HP100	Law Engineering and Environmental Services, Inc. 1998b (UST#672)
Building HP250	Catlin Engineers and Scientists 1997 (UST#20070802_010)
Building LCH4015	Engineering and Environment, Inc. 2006c (UST#2005AMR_LCH4015); R.E. Wright Environmental, Inc. 1995c (UST#246); Shaw Environmental, Inc. 2009c (UST#LCH4015_2009FINALAMR_SHAW); Sovereign Consulting, Inc. 2006f (UST#LCH4015_2006AMR)
Building LCH4022	Groundwater Technology Government Services, Inc. 1993h (UST#145); J.A. Jones Environmental Services Company 2002a (UST#LCH4022_NFA_Request); Richard Catlin and Associates, Inc. 1995b (UST#152)
Building NH100	Catlin Engineers and Scientists 2003a (UST#719)
Building NH118	Law Engineering and Environmental Services, Inc. 1998c (UST#354); Catlin Engineers and Scientists 1997 (UST#20070802_010)
Building PP3311	Catlin Engineers and Scientists 2002e (UST#465)
Building PP3322	Catlin Engineers and Scientists 2002f (UST#120)
Building PP3332	Catlin Engineers and Scientists 2002i (UST#130)
Building PP3340	Catlin Engineers and Scientists 2002j (UST#208)
Building PP3354	Catlin Engineers and Scientists 2002l (UST#227)
Building PP3363	Mid-Atlantic Associates, P.A. 2002 (UST#385)
Building PT-5	Law Engineering, Inc. 1995b; Law Engineering and Environmental Services, Inc. 1996j
Building PT37	Catlin Engineers and Scientists 1999a (UST#368)
Building S688	Catlin Engineers and Scientists 1999b (UST#359)
Building S1856	R.E. Wright Environmental, Inc. 1995a (UST#79); Richard Catlin and Associates, Inc. 1997b (UST#100), 2001 (UST#200); U.S. Marine Corps Camp Lejeune 2001a (UST#1006)

Table D6. Construction, location, and contributing aquifer data for monitor wells at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.—Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; C1, land-surface altitude calculated using reported top of casing altitude and casing stickup; C2, land-surface altitude calculated as C1 with a datum conversion; DEM, land-surface altitude estimated using a digital elevation model; R, land-surface altitude reported in data sources; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; Local CU, Local confining unit; TTAQ, Tarawa Terrace aquifer; UCHRBU, Upper Castle Hayne aquifer–River Bend unit; N/A, data not available; AKA, also known as]

Building S2633 Catlin Engineers and Scientists 1998a (UST#508); U.S. Marine Corps Camp Lejeune 2001b (UST#1138)

Building SLCH4019

Law Engineering and Environmental Services, Inc. 1996g (UST#346), 1998d (UST#214); U.S. Marine Corps Camp Lejeune 2001c (UST#1144)

HPFF, IRP22, IRP78

Catlin Engineers and Scientists 1998b, 2000cb, 2001f, 2002cd, 2003d, 2004h, 2007a (UST files #370, #418, #456, #468, #666, #677, #747, #202027_CSA_REV, #HPFF_BIO-PULSE_SPARGE_PILOT_TEST_REPORT, #FINAL_UST_MANRPT_YEAR2006); Richard Catlin and Associates, Inc. 1997c, 1998ab (UST file #408, #410, #457); Geophex, Ltd 2002a (UST file #450); Shaw Environmental, Inc. 2009d (UST file #HPFF_2009FinalAMR_Shaw); O'Brien and Gere Engineers, Inc. 1988 (UST file #669); CH2MHill 2001 (UST file #670); U.S. Marine Corps 2003ab (UST file #1185, #1186); Faye et al. 2010

Michael Road Fuel Farm

Catlin Engineers and Scientists 2005f (UST#204100_MRFF_PHASE_I_LSA)

Tank S781 O'Brien and Gere Engineers, Inc. 1992b (CERCLA#269, UST#158), 1993 (CERCLA#270, UST #159)

Tanks S889&S891 O'Brien and Gere Engineers, Inc. 1992a (UST#156)

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg21_HP01	332611	2498445	4.0	R	5/12/1992	12.0–12.0	BBUAQ
Bldg33_HP01	359189	2497689	31.2	DEM	2/1/1995	2.0–4.0	BBUAQ
Bldg33_HP02	359194	2497628	30.8	DEM	2/1/1995	2.0–4.0	BBUAQ
Bldg33_HP03	359196	2497593	30.5	DEM	2/1/1995	2.0–4.0	BBUAQ
Bldg33_HP04	359250	2497610	30.9	DEM	2/1/1995	2.0–4.0	BBUAQ
Bldg33_HP05	359315	2497602	30.4	DEM	2/1/1995	3.0–5.0	BBUAQ
Bldg45_H01	361351	2495177	14.9	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H02	361335	2495306	19.9	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H03	361524	2495318	14.0	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H04	361574	2495225	10.1	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H05	361248	2495311	19.6	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H06	361476	2495156	10.4	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H07	351599	2495299	30.9	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H08	361357	2495128	11.5	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H09	361395	2494959	11.0	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_H10	361435	2495490	21.7	DEM	12/6/1991	N/A	BBLAQ(?)
Bldg45_HP01 (Law)	361308	2495566	21.2	DEM	12/8/1992	8.5–10.0	BBLAQ
Bldg45_HP02 (Law)	361312	2495566	21.1	DEM	12/8/1992	N/A	BBLAQ(?)
Bldg45_HP03 (Law)	361391	2495506	21.3	DEM	12/9/1992	16.0–19.0	BBLAQ
Bldg45_HP04 (Law)	361199	2495495	21.0	DEM	12/10/1992	25.5–27.0	TTAQ
Bldg45_HP05 (Law)	361250	2495566	22.5	DEM	12/14/1992	8.5–10.0	BBLAQ
Bldg45_HP06 (Law)	361338	2495538	20.9	DEM	12/15/1992	8.5–10.0	BBLAQ
Bldg45_HP07 (Law)	361317	2495515	21.6	DEM	12/15/1992	8.5–12.0	BBLAQ
Bldg45_HP08 (Law)	361284	2495608	20.9	DEM	12/15/1992	8.5–10.0	BBLAQ
Bldg45_HP09 (Law)	361279	2495609	21.3	DEM	12/15/1992	22.0–23.5	TTAQ
Bldg45_HP10 (Law)	361377	2495548	20.6	DEM	12/16/1992	28.2–29.7	TTAQ
Bldg331_HP01	336042	2496609	19.4	DEM	3/15/1995	15.0–19.0	BBLAQ
Bldg331_HP02	336052	2496603	19.5	DEM	3/15/1995	16.0–19.0	BBLAQ
Bldg331_HP03	336086	2496585	19.1	DEM	3/15/1995	15.0–19.0	BBLAQ
Bldg331_HP04	336046	2496614	19.9	DEM	3/15/1995	15.5–19.0	BBLAQ
Bldg331_HP05	336073	2496640	22.2	DEM	3/15/1995	20.0–24.0	BBLAQ
Bldg331_HP06	336011	2496633	20.1	DEM	3/15/1995	18.0–22.0	BBLAQ
Bldg331_HP07	335953	2496556	18.1	DEM	3/15/1995	18.0–22.0	BBLAQ
Bldg331_HP08	335994	2496585	18.9	DEM	3/16/1995	15.0–19.0	BBLAQ
Bldg331_HP09	335908	2496510	17.3	DEM	3/16/1995	15.0–18.0	BBLAQ
Bldg331_HP10	335968	2496469	16.5	DEM	3/16/1995	13.0–15.0	BBLAQ
Bldg331_HP11	336004	2496479	17.8	DEM	3/16/1995	16.0–18.0	BBLAQ
Bldg331_HP12	336041	2496515	18.6	DEM	3/16/1995	15.0–19.0	BBLAQ

Table D7

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg331_HP13	336062	2496539	18.9	DEM	3/16/1995	14.0–17.0	BBLAQ
Bldg331_HP14	336054	2496575	19.1	DEM	3/16/1995	15.0–19.0	BBLAQ
Bldg331_HP15	335973	2496615	19.5	DEM	3/16/1995	16.0–19.0	BBLAQ
Bldg645_DP01	356410	2497084	27.3	DEM	2/12/1996	24.0–27.0	TTAQ
Bldg645_DP02	356221	2496992	27.1	DEM	2/12/1996	26.0–29.0	TTAQ
Bldg645_DP03	356130	2497027	28.2	DEM	2/12/1996	29.0–32.0	TTAQ
Bldg645_DP04	356198	2497078	27.6	DEM	2/12/1996	28.0–31.0	TTAQ
Bldg645_DP05	356109	2497154	29.3	DEM	2/12/1996	28.0–31.0	TTAQ
Bldg645_HP01	356420	2497286	26.1	DEM	10/20/1994	15.0–17.0	BBLAQ
Bldg645_HP02	356442	2497425	30.0	DEM	10/20/1994	18.0–18.0	BBLAQ
Bldg645_HP03	356497	2497313	25.0	DEM	10/20/1994	15.0–17.0	BBLAQ
Bldg645_HP04	356513	2497418	27.9	DEM	10/21/1994	15.0–17.0	BBLAQ
Bldg645_HP05	356544	2497475	27.6	DEM	10/24/1994	18.0–18.0	BBLAQ
Bldg645_HP06	356541	2497336	25.3	DEM	10/24/1994	18.0–20.0	BBLAQ
Bldg645_HP07	356293	2497247	28.3	DEM	10/25/1994	18.0–20.0	BBLAQ
Bldg645_HP08	356322	2497366	25.8	DEM	10/25/1994	15.0–17.0	BBLAQ
Bldg645_HP09	356567	2497396	26.4	DEM	10/25/1994	25.0–28.0	TTAQ
Bldg645_HP10	356386	2497176	27.2	DEM	11/17/1994	25.0–27.0	TTAQ
Bldg728_HP01	341249	2492550	6.8	DEM	11/6/1991	N/A	TTAQ(?)
Bldg728_HP02	341193	2492436	16.1	DEM	11/6/1991	N/A	BBLAQ(?)
Bldg728_HP03	341401	2492447	1.1	DEM	11/6/1991	N/A	TTAQ(?)
Bldg728_HP04	341386	2492477	1.1	DEM	11/6/1991	N/A	TTAQ(?)
Bldg728_HP05	341388	2492510	1.1	DEM	11/6/1991	N/A	TTAQ(?)
Bldg728_HP06	341266	2492561	2.4	DEM	11/6/1991	N/A	TTAQ(?)
Bldg728_HP07	341343	2492619	1.1	DEM	11/6/1991	N/A	TTAQ(?)
Bldg728_HP08	341230	2492622	13.7	DEM	11/6/1991	N/A	BBLAQ(?)
Bldg728_HP09	341274	2492581	1.2	DEM	11/22/1991	N/A	TTAQ(?)
Bldg728_HP10	341385	2492428	1.1	DEM	11/22/1991	N/A	TTAQ(?)
Bldg820_HP01	349801	2494863	26.4	DEM	12/3/1992	11.0–15.0	BBLAQ
Bldg820_HP02	349813	2494862	26.8	DEM	12/3/1992	34.5–36.0	TTAQ
Bldg820_HP03	349608	2494694	29.7	DEM	12/3/1992	15.0–18.0	BBLAQ
Bldg820_HP04	349639	2494748	29.3	DEM	12/3/1992	15.0–18.0	BBLAQ
Bldg820_HP05	349628	2494749	29.5	DEM	12/3/1992	32.0–35.0	TTAQ
Bldg820_HP06	349732	2494652	30.5	DEM	12/7/1992	13.0–18.0	BBUCU, BBLAQ
Bldg820_HP07	349732	2494652	30.5	DEM	12/7/1992	39.0–40.0	TTAQ
Bldg820_HP08	349716	2494594	29.6	DEM	12/7/1992	15.0–18.0	BBLAQ
Bldg820_HP09	349723	2494722	29.8	DEM	12/8/1992	33.0–35.0	TTAQ
Bldg820_HP10	349770	2494625	30.4	DEM	12/8/1992	15.0–19.0	BBLAQ

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg820_HP16	349702	2494487	29.9	DEM	3/16/1994	47.0–50.0	TTAQ
Bldg820_HP17	349704	2494491	29.9	DEM	3/11/1994	30.0–33.0	TTAQ
Bldg820_HP18	349797	2494551	29.8	DEM	3/9/1994	16.0–19.0	BBLAQ
Bldg820_HP19	349765	2494844	27.0	DEM	3/10/1994	15.0–18.0	BBLAQ
Bldg820_HP20	349532	2495086	31.5	DEM	3/9/1994	22.0–25.0	BBLAQ
Bldg820_HP21	349622	2495004	30.5	DEM	3/9/1994	19.0–22.0	BBLAQ
Bldg820_HP22	349707	2494916	26.9	DEM	3/9/1994	16.0–19.0	BBLAQ
Bldg820_HP23	349477	2494982	25.8	DEM	3/8/1994	12.5–15.5	BBLAQ
Bldg820_HP24	349388	2495060	28.6	DEM	3/8/1994	15.0–18.0	BBLAQ
Bldg820_HP25	349393	2495056	28.5	DEM	3/8/1994	30.0–33.0	TTAQ
Bldg820_HP26	349471	2494988	26.2	DEM	3/15/1994	47.0–50.0	TTAQ
Bldg820_HP27	349616	2494619	29.2	DEM	3/14/1994	40.0–43.0	TTAQ
Bldg820_HP28	349640	2494589	29.5	DEM	3/17/1994	47.0–50.0	TTAQ
Bldg820_HP29	349317	2494976	28.0	DEM	3/9/1994	15.0–18.0	BBLAQ
Bldg820_HP30	349399	2494911	27.3	DEM	3/9/1994	15.0–18.0	BBLAQ
Bldg820_HP31	349491	2494833	29.4	DEM	3/10/1994	19.0–22.0	BBLAQ
Bldg820_HP32	349551	2494758	30.1	DEM	3/10/1994	16.0–19.0	BBLAQ
Bldg820_HP33	349545	2494758	30.2	DEM	3/15/1994	47.0–50.0	TTAQ
Bldg820_HP34	349669	2494549	29.7	DEM	3/11/1994	29.0–32.0	TTAQ
Bldg820_HP35	349661	2494556	29.6	DEM	3/10/1994	17.0–20.0	BBLAQ
Bldg820_HP36	349981	2494647	30.2	DEM	3/10/1994	15.0–18.0	BBLAQ
Bldg820_HP37	349606	2494465	29.8	DEM	3/22/1994	47.0–50.0	TTAQ
Bldg900_GP01	340533	2502673	30.7	DEM	7/16/1996	10.0–12.0	BBUAQ
Bldg900_GP02	340511	2502713	30.3	DEM	7/16/1996	10.0–12.0	BBUAQ
Bldg900_GP03, AKA Bldg900_PZ01	340553	2502732	31.5	DEM	7/15/1996	4.4–8.5	BBUAQ
Bldg900_GP04	340558	2502751	30.8	DEM	7/15/1996	8.0–10.0	BBUAQ
Bldg900_GP05	340574	2502764	30.7	DEM	7/17/1996	8.0–10.0	BBUAQ
Bldg900_GP06	340597	2502749	30.6	DEM	7/15/1996	8.0–10.0	BBUAQ
Bldg900_GP07	340499	2502734	30.0	DEM	7/16/1996	10.0–12.0	BBUAQ
Bldg900_GP08, AKA Bldg900_PZ02	340553	2502768	30.7	DEM	7/15/1996	4.4–7.9	BBUAQ
Bldg900_GP09, AKA Bldg900_PZ03	340573	2502691	30.6	DEM	7/15/1996	2.6–7.9	BBUAQ
Bldg900_GP10	340591	2502710	30.3	DEM	7/15/1996	10.0–12.0	BBUAQ
Bldg900_GP11, AKA Bldg900_PZ04	340607	2502725	30.6	DEM	7/15/1996	4.4–8.9	BBUAQ
Bldg900_GP12	340618	2502747	30.5	DEM	7/16/1996	8.0–10.0	BBUAQ
Bldg900_GP13	340599	2502666	30.7	DEM	7/16/1996	8.0–10.0	BBUAQ

Table D7

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBQAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg900_GP14	340532	2502778	30.5	DEM	7/11/1996	12.0–14.0	BBUAQ
Bldg900_GP15	340617	2502709	30.5	DEM	7/16/1996	8.0–10.0	BBUAQ
Bldg900_GP16	340625	2502727	30.5	DEM	7/16/1996	10.0–12.0	BBUAQ
Bldg900_HP01	340682	2502711	29.7	DEM	8/31/1996	5.0–8.0	BBUAQ
Bldg900_HP02	340682	2502659	30.5	DEM	8/31/1996	5.0–8.0	BBUAQ
Bldg900_HP03	340648	2502628	30.6	DEM	8/31/1996	5.0–8.0	BBUAQ
Bldg900_HP04	340619	2502628	30.5	DEM	7/29/1996	6.0–8.0	BBUAQ
Bldg900_HP05	340659	2502591	30.3	DEM	7/31/1996	5.0–8.0	BBUAQ
Bldg900_HP06	340545	2502621	31.0	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP07	340557	2502566	29.4	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP08	340620	2502563	30.2	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP09	340679	2502564	30.6	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP10	340714	2502598	29.9	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP11	340742	2502650	30.2	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP12	340745	2502711	30.0	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP13	340795	2502680	30.2	DEM	3/10/1997	5.0–8.0	BBUAQ
Bldg900_HP14	340787	2502603	30.5	DEM	3/11/1997	4.0–8.0	BBUAQ
Bldg900_HP15	340743	2502546	30.4	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP16	340681	2502508	29.7	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg900_HP17	340610	2502501	30.0	DEM	3/11/1997	5.0–9.0	BBUAQ
Bldg1106_GP01	338933	2501664	29.2	R	9/19/1996	10.0–12.0	BBUAQ
Bldg1106_GP02, AKA Bldg1106_PZ01	338943	2501677	29.2	R	9/19/1996	6.2–10.0	BBUAQ
Bldg1106_GP03, AKA Bldg1106_PZ02	338970	2501696	29.3	R	9/19/1996	6.2–9.0	BBUAQ
Bldg1106_GP04	338938	2501683	29.3	R	9/19/1996	10.0–12.0	BBUAQ
Bldg1106_GP05	338961	2501699	29.8	R	9/20/1996	10.0–12.0	BBUAQ
Bldg1106_GP06	338918	2501679	29.2	DEM	9/19/1996	10.0–12.0	BBUAQ
Bldg1106_GP07	338928	2501686	29.3	DEM	9/19/1996	10.0–12.0	BBUAQ
Bldg1106_GP08	338957	2501704	29.5	R	9/20/1996	10.0–12.0	BBUAQ
Bldg1106_GP09, AKA Bldg1106_PZ04	338968	2501712	29.1	R	9/20/1996	6.2–12.0	BBUAQ
Bldg1106_GP10, AKA Bldg1106_PZ03	338934	2501696	29.4	R	9/19/1996	4.5–10.0	BBUAQ
Bldg1106_GP11	338945	2501708	29.3	R	9/20/1996	10.0–12.0	BBUAQ
Bldg1106_GP12	338952	2501715	28.9	DEM	9/20/1996	10.0–12.0	BBUAQ
Bldg1106_GP13	338904	2501694	29.2	DEM	9/19/1996	10.0–17.0	BBUAQ, BBUCU
Bldg1106_GP14	338963	2501732	29.6	R	9/20/1996	10.0–12.0	BBUAQ
Bldg1106_GP15	338928	2501725	29.2	R	9/20/1996	10.0–12.0	BBUAQ
Bldg1106_GP16	338950	2501749	28.9	DEM	9/20/1996	10.0–12.0	BBUAQ

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg1115_HP01	340148	2500616	27.0	DEM	11/15/1993	33.0–36.0	BBLAQ
Bldg1115_HP02	340240	2500500	24.8	DEM	11/17/1993	9.0–13.0	BBUAQ, BBUCU
Bldg1115_HP03	339856	2500434	26.3	DEM	11/17/1993	13.0–17.0	BBUAQ, BBUCU
Bldg1115_HP04	340497	2500624	26.6	DEM	11/17/1993	11.0–15.0	BBUAQ, BBUCU
Bldg1115_HP05	340102	2500864	26.0	DEM	11/12/1993	9.0–13.0	BBUAQ, BBUCU
Bldg1115_HP06	340282	2500688	26.6	DEM	11/12/1993	6.0–10.0	BBUAQ, BBUCU
Bldg1115_HP07	340374	2500821	26.0	DEM	11/16/1993	9.0–13.0	BBUAQ, BBUCU
Bldg1115_HP08	339823	2500574	25.9	DEM	11/17/1993	14.0–17.0	BBUAQ, BBUCU
Bldg1115_HP09	340198	2500590	25.4	DEM	11/12/1993	9.0–13.0	BBUAQ, BBUCU
Bldg1115_HP10	340279	2500774	26.3	DEM	11/12/1993	7.0–11.0	BBUAQ, BBUCU
Bldg1450_GP01	337191	2501244	27.6	DEM	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP02	337212	2501263	27.8	DEM	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP03	337229	2501276	28.0	DEM	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP04	337244	2501290	30.0	DEM	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP05	337238	2501315	26.8	R	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP06, AKA Bldg1450_PZ01	337221	2501322	26.1	R	7/17/1996	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg1450_GP07	337211	2501310	26.2	DEM	7/18/1996	16.0–18.0	BBLAQ
Bldg1450_GP08	337203	2501300	26.6	DEM	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP09	337185	2501282	28.7	DEM	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP10, AKA Bldg1450_PZ04	337176	2501271	25.9	R	7/17/1996	10.0–20.0	BBUCU, BBLAQ
Bldg1450_GP11	337158	2501276	25.9	DEM	7/19/1996	18.0–20.0	BBLAQ
Bldg1450_GP12	337144	2501290	25.7	DEM	7/19/1996	18.0–20.0	BBLAQ
Bldg1450_GP13	337126	2501300	25.8	R	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP14	337113	2501316	25.5	DEM	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP15	337130	2501327	25.8	R	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP16	337144	2501343	25.6	DEM	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP17, AKA Bldg1450_PZ02	337157	2501356	25.2	R	7/17/1996	8.0–18.0	BBUAQ, BBUCU, BBLAQ
Bldg1450_GP18	337169	2501371	25.4	DEM	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP19	337181	2501356	25.6	DEM	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP20	337200	2501339	25.9	DEM	7/18/1996	18.0–20.0	BBLAQ
Bldg1450_GP21	337142	2501258	25.6	R	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP22, AKA Bldg1450_PZ03	337118	2501278	25.6	R	7/17/1996	8.0–18.0	BBUAQ, BBLAQ
Bldg1450_GP23	337122	2501363	25.7	R	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP24	337098	2501340	25.7	DEM	7/23/1996	18.0–20.0	BBLAQ
Bldg1450_GP25, AKA Bldg1450_PZ05	337017	2501449	25.8	R	7/24/1996	10.0–20.0	BBLAQ

Table D7

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg1450_GP26	337031	2501464	25.6	R	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP27	337032	2501481	25.8	DEM	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP28, AKA Bldg1450_PZ06	337011	2501497	25.6	R	7/24/1996	8.5–18.5	BBUAQ, BBUCU, BBLAQ
Bldg1450_GP29	336994	2501511	25.9	DEM	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP30	336962	2501513	26.1	DEM	7/24/1996	18.0–20.0	BBLAQ
Bldg1450_GP31, AKA Bldg1450_PZ07	336947	2501496	26.1	R	7/24/1996	10.0–20.0	BBLAQ
Bldg1450_GP32	336957	2501466	25.8	R	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP33	336960	2501440	25.8	R	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP34	336990	2501435	25.8	DEM	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP35	336962	2501407	25.6	R	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP36, AKA Bldg1450_PZ08	336937	2501414	25.5	R	7/24/1996	10.0–20.0	BBUAQ, BBUCU, BBLAQ
Bldg1450_GP37	336939	2501443	25.5	DEM	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP38	336922	2501467	25.8	R	7/25/1996	18.0–20.0	BBLAQ
Bldg1450_GP39	336917	2501511	25.6	DEM	7/24/1996	18.0–20.0	BBLAQ
Bldg1450_GP40	336937	2501535	25.6	R	7/24/1996	18.0–20.0	BBLAQ
Bldg1450_HP01	336987	2501252	25.0	DEM	10/22/1996	14.0–17.0	BBLAQ
Bldg1450_HP02	336946	2501318	24.9	DEM	10/22/1996	15.0–18.0	BBLAQ
Bldg1450_HP03	336979	2501357	25.2	DEM	10/22/1996	15.0–18.0	BBLAQ
Bldg1450_HP04	336891	2501314	25.4	DEM	10/22/1996	14.0–17.0	BBLAQ
Bldg1601_DP01	338066	2499681	25.2	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP02	338057	2499653	26.3	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP03	338058	2499638	26.4	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP04	338014	2499678	26.7	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP05	338039	2499670	26.4	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP06	338047	2499684	25.6	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP07	338072	2499664	25.4	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP08	338054	2499666	25.9	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP09	337988	2499699	26.3	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP10	338018	2499721	25.2	DEM	10/7/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP11	338037	2499748	24.6	DEM	10/4/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP12	338086	2499704	25.2	DEM	10/7/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP13	338140	2499660	25.7	DEM	10/7/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP14	338089	2499647	25.7	R	10/7/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP15	338119	2499628	26.8	R	10/7/1996	6.0–16.0	BBUAQ, BBUCU
Bldg1601_DP16	338112	2499588	25.8	R	10/7/1996	6.0–16.0	BBUAQ, BBUCU

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg1613_HP01, AKA 94HP-01	338380	2498555	27.4	DEM	3/28/1995	7.0–11.0	BBUAQ
Bldg1613_HP01D, AKA 94HP-01D	338380	2498555	27.4	DEM	3/29/1995	17.0–20.0	BBUCU, BBLAQ
Bldg1613_HP02, AKA 94HP-02	338549	2498511	26.6	DEM	3/30/1995	13.0–17.0	BBUCU
Bldg1613_HP03, AKA 94HP-03	338808	2498845	25.8	DEM	4/12/1995	15.0–19.0	BBUCU, BBLAQ
Bldg1613_HP04, AKA 94HP-04	338365	2498696	27.8	DEM	4/6/1995	11.0–15.0	BBUAQ, BBUCU
Bldg1613_HP05, AKA 94HP-05	338590	2498676	23.5	DEM	4/6/1995	11.0–15.0	BBUCU, BBLAQ
Bldg1613_HP06, AKA 94HP-06	338831	2498604	24.4	DEM	4/12/1995	15.0–19.0	BBLAQ
Bldg1613_HP07, AKA 94HP-07	338340	2498891	25.5	DEM	4/5/1995	7.0–10.0	BBUAQ
Bldg1613_HP08, AKA 94HP-08	338603	2498850	25.2	DEM	4/5/1995	13.0–16.0	BBUCU, BBLAQ
Bldg1613_HP09, AKA 94HP-09	338808	2498845	25.8	DEM	4/5/1995	11.0–15.0	BBUCU
Bldg1613_HP10, AKA 94HP-10	338499	2499115	26.1	DEM	4/6/1995	16.0–20.0	BBLAQ
Bldg1613_HP11, AKA 94HP-11	338677	2499052	26.4	DEM	4/6/1995	11.0–15.0	BBUCU
Bldg1613_HP12, AKA 94HP-12	338837	2499053	24.9	DEM	4/5/1995	11.0–15.0	BBUCU
Bldg1613_HP13, AKA 94HP-13	338533	2499282	25.7	DEM	4/6/1995	12.0–15.0	BBUCU
Bldg1613_HP14, AKA 94HP-14	338653	2499244	26.2	DEM	4/5/1995	12.0–15.0	BBUCU
Bldg1613_HP15, AKA 94HP-15	338803	2499213	25.5	DEM	4/5/1995	12.0–15.0	BBUCU
Bldg1854_DP01	334730	2500901	18.8	DEM	1/31/1996	16.0–20.0	BBLAQ
Bldg1854_DP02	334665	2500941	17.7	R	1/31/1996	16.0–20.0	BBLAQ
Bldg1854_DP03	334661	2500879	18.0	DEM	1/31/1996	16.0–20.0	BBLAQ
Bldg1854_DP04	334709	2500869	19.3	DEM	1/31/1996	19.0–22.0	BBLAQ
Bldg1854_DP05	334674	2500890	18.1	R	1/31/1996	17.0–21.0	BBLAQ
Bldg1854_DP06	334648	2500910	17.2	DEM	1/31/1996	17.0–21.0	BBLAQ
Bldg1854_DP07	334651	2500958	17.8	R	2/1/1996	18.0–22.0	BBLAQ
Bldg1854_DP08	334703	2500939	17.5	R	2/1/1996	18.0–22.0	BBLAQ
Bldg1854_DP09	334629	2500924	17.6	R	2/1/1996	18.0–22.0	BBLAQ
Bldg1854_DP10	334608	2500931	17.9	R	2/1/1996	18.0–22.0	BBLAQ
Bldg1854_DP11	334559	2500924	17.7	R	2/1/1996	18.0–22.0	BBLAQ

Table D7

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLUCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
Bldg1854_DP12	334752	2500943	17.6	R	2/1/1996	18.0–22.0	BBLAQ
Bldg1854_DP13	334685	2501050	21.5	R	2/1/1996	18.0–22.0	BBLAQ
Bldg1854_DP14	334707	2501166	9.5	R	2/1/1996	13.0–16.0	BBLAQ
Bldg1854_DP15	334841	2501108	9.7	DEM	2/1/1996	12.0–16.0	BBLAQ
Bldg1854_DP16	334564	2501088	11.7	DEM	2/1/1996	12.0–16.0	BBLAQ
Bldg1880_GP01	335357	2499163	26.2	DEM	1/25/1996	22.0–24.0	BBLAQ
Bldg1880_GP02	335355	2499151	26.1	DEM	1/26/1996	27.0–29.0	BBLAQ
Bldg1880_GP03	335345	2499149	26.6	R	1/26/1996	27.0–29.0	BBLAQ
Bldg1880_GP04	335333	2499160	26.5	DEM	1/24/1996	22.0–24.0	BBLAQ
Bldg1880_GP05	335299	2499146	26.7	DEM	1/24/1996	27.0–29.0	BBLAQ
Bldg1880_GP06	335313	2499128	25.8	R	1/25/1996	27.0–29.0	BBLAQ
Bldg1880_GP07	335340	2499122	26.0	DEM	1/26/1996	27.0–29.0	BBLAQ
Bldg1880_GP08	335369	2499124	25.8	DEM	1/25/1996	27.0–29.0	BBLAQ
Bldg1880_GP09	335395	2499140	25.6	DEM	1/25/1996	27.0–29.0	BBLAQ
Bldg1880_GP10	335385	2499168	26.1	R	1/25/1996	27.0–29.0	BBLAQ
Bldg1880_GP11	335375	2499190	26.6	DEM	1/26/1996	27.0–29.0	BBLAQ
Bldg1880_GP12	335273	2499109	26.1	DEM	1/25/1996	25.0–27.0	BBLAQ
Bldg1880_HP13	335365	2499288	26.5	DEM	2/27/1996	26.5–29.0	BBLAQ
Bldg1880_HP14	335328	2499262	26.8	DEM	2/28/1996	25.5–29.0	BBLAQ
Bldg1880_HP15	335282	2499236	26.5	DEM	2/28/1996	25.5–29.0	BBLAQ
Bldg5400_GP01	353745	2495772	30.8	R	8/1/1996	5.7–8.4	BBUAQ
Bldg5400_GP02	353718	2495810	31.1	R	8/1/1996	5.0–8.2	BBUAQ
Bldg5400_GP03, AKA Bldg5400_PZ01	353754	2495810	30.9	R	8/1/1996	5.7–8.2	BBUAQ
Bldg5400_GP04	353746	2495830	31.1	R	8/2/1996	5.0–8.3	BBUAQ
Bldg5400_GP05, AKA Bldg5400_PZ02	353697	2495782	31.0	R	8/1/1996	5.7–8.0	BBUAQ
Bldg5400_GP06	353775	2495817	29.6	DEM	8/2/1996	5.7–8.0	BBUAQ
Bldg5400_GP07	353783	2495833	30.4	R	8/2/1996	5.7–7.9	BBUAQ
Bldg5400_GP08	353666	2495784	29.4	DEM	8/1/1996	5.7–8.3	BBUAQ
Bldg5400_GP09	353656	2495804	29.6	DEM	8/1/1996	5.0–8.1	BBUAQ
Bldg5400_GP10	353729	2495833	31.1	R	8/1/1996	5.0–9.4	BBUAQ
Bldg5400_GP11	353776	2495767	29.8	DEM	8/1/1996	5.7–8.9	BBUAQ
Bldg5400_GP12	353683	2495834	31.4	R	8/1/1996	5.0–12.0	BBUAQ
Bldg5400_GP13, AKA Bldg5400_PZ03	353704	2495835	31.2	R	8/1/1996	5.0–8.0	BBUAQ
Bldg5400_GP14	353656	2495803	29.5	DEM	8/1/1996	5.5–8.6	BBUAQ
Bldg5400_GP15, AKA Bldg5400_PZ04	353646	2495827	31.0	R	8/1/1996	4.8–8.0	BBUAQ
Bldg5400_GP16	353762	2495740	30.9	R	8/2/1996	5.8–8.2	BBUAQ

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
BldgFC40_DPT01 (new)	334364	2506581	27.3	DEM	7/27/2007	4.5–14.5	BBUAQ
BldgFC40_DPT01 (old)	334364	2506581	27.3	DEM	11/3/2004	12.0–16.0	BBUAQ
BldgFC201E_HP01	333323	2504242	20.7	DEM	2/16/1994	6.0–9.0	BBUAQ
BldgFC201E_HP02	333305	2504364	19.6	DEM	2/16/1994	8.0–11.0	BBUAQ
BldgFC201E_HP03	333372	2504343	17.1	DEM	2/16/1994	7.0–10.0	BBUAQ
BldgFC201E_HP04	333431	2504340	18.0	DEM	2/16/1994	7.0–10.0	BBUAQ
BldgFC201E_HP05	333415	2504271	17.5	DEM	2/16/1994	7.0–10.0	BBUAQ
BldgFC201E_HP06	333424	2504198	17.1	DEM	2/16/1994	7.0–10.0	BBUAQ
BldgFC201E_HP07	333518	2504160	15.2	DEM	2/16/1994	7.0–10.0	BBUAQ, BBUCU
BldgFC201E_HP08	333507	2504367	17.1	DEM	2/17/1994	7.0–10.0	BBUAQ, BBUCU
BldgFC201E_HP09	333563	2504278	15.5	DEM	2/17/1994	7.0–10.0	BBUAQ, BBUCU
BldgFC201E_HP10	333623	2504261	15.5	DEM	2/17/1994	7.0–10.0	BBUAQ, BBUCU
BldgFC251_HP01	332585	2504396	29.3	DEM	4/3/1995	13.0–17.0	BBUAQ
BldgFC251_HP02	332504	2504291	28.1	DEM	4/3/1995	15.0–18.0	BBUAQ
BldgFC251_HP03	332388	2504292	28.2	DEM	4/3/1995	16.0–20.0	BBUAQ
BldgFC251_HP04	332480	2504429	28.0	DEM	4/4/1995	15.0–19.0	BBUAQ
BldgFC251_HP05	332388	2504382	28.0	DEM	4/4/1995	15.0–19.0	BBUAQ
BldgFC263_HP01	332081	2504587	26.0	DEM	2/6/1995	15.0–19.0	BBUAQ
BldgFC263_HP02	332010	2504625	27.0	DEM	2/7/1995	15.0–19.0	BBUAQ
BldgFC263_HP03	331927	2504614	27.2	DEM	2/7/1995	15.0–19.0	BBUAQ
BldgFC263_HP04	331876	2504631	28.3	DEM	2/8/1995	15.0–18.0	BBUAQ
BldgFC263_HP05	332004	2504731	27.2	DEM	2/9/1995	15.0–18.0	BBUAQ
BldgFC263_HP06	331969	2504772	28.4	DEM	2/9/1995	16.0–19.0	BBUAQ
BldgFC263_HP07	331827	2504783	27.4	DEM	2/9/1995	15.0–18.0	BBUAQ
BldgFC263_HP08	331905	2504858	27.8	DEM	2/9/1995	15.0–18.0	BBUAQ
BldgFC263_HP09	331781	2504643	28.1	DEM	2/10/1995	15.0–18.0	BBUAQ
BldgFC263_HP10	331949	2504697	27.7	DEM	2/10/1995	15.0–18.0	BBUAQ
BldgFC263_HP11	331888	2504935	27.2	DEM	2/10/1995	15.0–18.0	BBUAQ
BldgFC263_HP12	331849	2504508	27.1	DEM	2/13/1995	15.0–17.0	BBUAQ
BldgFC263_HP13	331977	2504499	26.5	DEM	2/13/1995	15.0–17.0	BBUAQ
BldgFC263_HP14	332016	2504406	25.3	DEM	2/16/1995	15.0–17.0	BBUAQ
BldgH19_DP01	341433	2489989	10.7	R	2/20/1997	N/A	N/A
BldgH19_DP02	341428	2490015	10.4	DEM	2/20/1997	6.2–9.8	BBUCU
BldgH19_DP03	341430	2490062	11.6	R	2/20/1997	6.7–9.7	BBUCU
BldgH19_DP04	341402	2489977	10.4	DEM	2/20/1997	7.3–11.5	BBUCU
BldgH19_DP05	341388	2489991	10.4	DEM	2/20/1997	5.0–10.0	BBUCU

Table D7

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
BldgH19_DP06	341388	2490015	10.5	DEM	2/20/1997	7.7–11.5	BBUCU
BldgH19_DP07	341414	2490039	10.7	DEM	2/20/1997	6.6–9.7	BBUCU
BldgH19_DP08	341405	2490070	11.1	DEM	2/20/1997	6.5–9.4	BBUCU
BldgH19_DP09	341380	2490067	10.9	DEM	2/21/1997	8.7–11.4	BBUCU
BldgH19_DP10	341360	2490013	10.1	DEM	2/20/1997	7.5–11.6	BBUCU
BldgH19_DP11	341361	2490031	10.2	DEM	2/21/1997	5.9–9.9	BBUCU
BldgH19_DP12	341358	2490063	11.0	R	2/21/1997	6.3–9.8	BBUCU
BldgH19_DP13	341404	2490004	10.5	DEM	2/21/1997	N/A	N/A
BldgH19_DP14	341404	2490017	10.4	DEM	2/21/1997	N/A	N/A
BldgH19_DP15	341397	2490034	10.6	DEM	2/21/1997	N/A	N/A
BldgH19_DP16	341381	2490033	10.4	DEM	2/20/1997	6.0–9.9	BBUCU
BldgH19_DP18	341325	2490015	9.8	DEM	2/21/1997	4.8–9.8	BBUCU
BldgH19_DP19	341324	2490047	9.9	DEM	2/21/1997	7.7–7.9	BBUCU
BldgH19_DP20	341324	2490069	10.3	DEM	2/21/1997	4.9–9.9	BBUCU
BldgH30_HP01	341391	2491890	5.3	DEM	4/13/1995	5.0–7.0	BBUCU
BldgH30_HP02	341422	2491900	3.1	DEM	4/13/1995	4.0–7.0	BBUCU
BldgH30_HP03	341426	2491919	3.2	DEM	4/13/1995	4.0–7.0	BBUCU
BldgH30_HP04	341429	2491936	3.4	DEM	4/13/1995	4.0–7.0	BBUCU
BldgH30_HP05	341421	2491962	2.6	DEM	4/13/1995	4.0–7.0	BBUCU
BldgLCH4015_HP01	359498	2498836	34.3	DEM	6/7/1995	6.0–9.0	BBLAQ
BldgLCH4015_HP02	359499	2498795	34.0	DEM	6/7/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP03	359482	2498746	34.3	DEM	6/7/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP04	359448	2498794	33.4	DEM	6/6/1995	6.0–9.0	BBLAQ
BldgLCH4015_HP05	359448	2498794	33.4	DEM	6/7/1995	6.0–9.0	BBLAQ
BldgLCH4015_HP06	359402	2498851	33.5	DEM	6/7/1995	6.0–9.0	BBLAQ
BldgLCH4015_HP07	359351	2498828	33.4	DEM	6/7/1995	6.0–9.0	BBLAQ
BldgLCH4015_HP08	359290	2498766	32.4	DEM	6/8/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP09	359548	2498746	33.2	DEM	6/8/1995	6.0–9.0	BBLAQ
BldgLCH4015_HP10	359405	2498789	33.1	DEM	6/6/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP11	359436	2498725	33.0	DEM	6/7/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP12	359525	2498671	33.1	DEM	6/9/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP13	359573	2498836	33.1	DEM	6/9/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP14	359559	2498911	33.0	DEM	6/9/1995	5.0–8.0	BBLAQ
BldgLCH4015_HP15	359652	2498691	32.7	DEM	6/9/1995	5.0–8.0	BBLAQ
BldgLCH4022_HP01	359828	2498515	32.0	DEM	11/24/1993	37.0–39.0	TTAQ
BldgLCH4022_HP02	359857	2498525	31.9	DEM	11/24/1993	4.0–9.0	BBLAQ
BldgLCH4022_HP03	359898	2498460	29.9	DEM	11/19/1993	5.0–9.0	BBLAQ
BldgLCH4022_HP04	359825	2498395	29.4	DEM	11/19/1993	5.0–9.0	BBLAQ

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
BldgLCH4022_HP05	359802	2498504	31.5	DEM	11/24/1993	5.5–9.5	BBLAQ
BldgLCH4022_HP06	359824	2498566	31.8	DEM	11/19/1993	5.0–9.0	BBLAQ
BldgLCH4022_HP07	359959	2498551	30.7	DEM	11/19/1993	5.0–9.0	BBLAQ
BldgLCH4022_HP08	359746	2498643	31.2	DEM	11/19/1993	5.0–9.0	BBLAQ
BldgLCH4022_HP09	359815	2498706	31.7	DEM	11/18/1993	4.0–8.0	BBLAQ
BldgLCH4022_HP10	359979	2498559	30.4	DEM	11/24/1993	5.0–9.0	BBLAQ
BldgPT5_HP01	342318	2499291	N/A	DEM	2/15/1995	15.0–18.0	BBUAQ
BldgPT5_HP02	342287	2499317	N/A	DEM	2/15/1995	15.0–18.0	BBUAQ
BldgPT5_HP03	342287	2499212	N/A	DEM	2/15/1995	15.5–18.5	BBUAQ
BldgPT5_HP04	342247	2499136	N/A	DEM	2/15/1995	15.0–18.0	BBUAQ
BldgPT5_HP05	342227	2499053	N/A	DEM	2/15/1995	14.0–17.0	BBUAQ
BldgPT5_HP06	342205	2498974	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP07	342196	2499113	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP08	342180	2499017	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP09	342141	2499078	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP10	342145	2499245	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP11	342242	2499225	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP12	342249	2499295	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP13	342235	2499395	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP14	342200	2499303	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgPT5_HP15	342170	2499187	N/A	DEM	2/15/1995	20.0–23.0	BBUAQ
BldgS1856_DP01	335702	2499710	22.8	R	3/27/1997	5.0–8.0	BBUAQ
BldgS1856_DP02	335782	2499620	20.7	DEM	3/27/1997	6.0–8.0	BBUAQ
BldgS1856_DP03	335619	2499598	24.0	R	4/1/1997	5.5–8.0	BBUAQ
BldgS1856_DP04	335640	2499643	24.3	R	4/1/1997	6.0–8.0	BBUAQ
BldgS1856_DP05	335661	2499609	23.4	DEM	4/1/1997	6.0–8.0	BBUAQ
BldgS1856_DP06	335721	2499526	22.9	DEM	4/1/1997	6.0–8.0	BBUAQ
BldgS1856_DP07	335825	2499541	21.6	DEM	4/1/1997	6.0–8.0	BBUAQ
BldgS1856_DP08	335799	2499583	21.6	DEM	4/1/1997	6.0–8.0	BBUAQ
BldgS1856_DP09	335812	2499614	21.2	DEM	4/2/1997	6.0–8.0	BBUAQ
BldgS1856_DP10	335794	2499639	21.1	DEM	4/2/1997	6.0–8.0	BBUAQ
BldgS1856_DP11	335729	2499719	22.0	R	4/2/1997	5.0–8.0	BBUAQ
BldgS1856_DP12	335659	2499728	23.3	DEM	4/2/1997	6.0–8.0	BBUAQ
BldgS1856_DP13	335634	2499705	24.1	R	4/2/1997	6.0–8.0	BBUAQ
BldgS1856_DP14	335857	2499527	22.2	DEM	4/2/1997	6.0–8.0	BBUAQ
BldgS1856_DP15	335642	2499775	22.8	DEM	4/2/1997	6.0–8.0	BBUAQ
BldgS1856_DP16	335823	2499698	21.9	DEM	4/2/1997	6.0–8.0	BBUAQ

Table D7

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
BldgSLCH4019_HP01	360172	2498889	31.3	DEM	4/11/1995	4.0–7.0	BBLAQ
BldgSLCH4019_HP02	360169	2498983	30.9	DEM	2/14/1995	2.0–5.0	BBLAQ
BldgSLCH4019_HP03	360178	2499052	30.7	DEM	2/14/1995	3.0–6.0	BBLAQ
BldgSLCH4019_HP04	360142	2498938	31.1	DEM	4/11/1995	4.0–7.0	BBLAQ
BldgSLCH4019_HP05	360139	2499026	30.8	DEM	2/15/1995	4.0–7.0	BBLAQ
BldgSLCH4019_HP06	360090	2498917	31.1	DEM	4/11/1995	4.0–7.0	BBLAQ
BldgSLCH4019_HP07	360059	2498962	31.8	DEM	4/11/1995	5.0–8.0	BBLAQ
BldgSLCH4019_HP08	360086	2499016	31.6	DEM	4/11/1995	4.0–7.0	BBLAQ
BldgSLCH4019_HP09	360097	2499100	31.5	DEM	4/11/1995	4.0–7.0	BBLAQ
BldgSLCH4019_HP10	360030	2498919	32.7	DEM	4/11/1995	5.0–8.0	BBLAQ
BldgSLCH4019_HP11	360042	2499000	31.7	DEM	4/11/1995	5.0–8.0	BBLAQ
BldgSLCH4019_HP12	360066	2499095	31.8	DEM	4/11/1995	4.0–7.0	BBLAQ
BldgSLCH4019_HP13	360131	2498881	31.5	DEM	4/13/1995	5.0–8.0	BBLAQ
BldgSLCH4019_HP14	360044	2498822	32.3	DEM	4/13/1995	6.0–9.0	BBLAQ
BldgSLCH4019_HP15	359967	2498854	32.3	DEM	4/13/1995	5.0–8.0	BBLAQ
HPFF_DPT01	339908	2500988	26.7	DEM	6/25/1997	N/A	N/A
HPFF_DPT02	339852	2501038	30.4	DEM	6/25/1997	N/A	N/A
HPFF_DPT03	339918	2501038	26.2	DEM	6/25/1997	N/A	N/A
HPFF_DPT04	339863	2500980	26.0	DEM	6/25/1997	N/A	N/A
HPFF_DPT05	339938	2500673	26.2	DEM	6/25/1997	N/A	N/A
HPFF_DPT06	340094	2500847	25.9	DEM	6/25/1997	N/A	N/A
HPFF_DPT07	340110	2500952	27.4	DEM	6/25/1997	N/A	N/A
HPFF_DPT08	340195	2500879	26.2	DEM	6/25/1997	N/A	N/A
HPFF_DPT09	340216	2500722	27.2	DEM	6/26/1997	N/A	N/A
HPFF_DPT10	340179	2500670	27.3	DEM	6/26/1997	N/A	N/A
HPFF_DPT11	340125	2500621	27.2	DEM	6/26/1997	N/A	N/A
HPFF_DPT12	340037	2501415	28.0	DEM	6/27/1997	N/A	N/A
HPFF_DPT13	339989	2501484	27.4	DEM	6/27/1997	N/A	N/A
HPFF_DPT14	340058	2501557	28.0	DEM	6/27/1997	N/A	N/A
HPFF_DPT15	340034	2501660	26.8	DEM	6/27/1997	N/A	N/A
HPFF_DPT16	339824	2501501	28.2	DEM	6/27/1997	N/A	N/A
HPFF_DPT17	339687	2501426	27.8	DEM	6/27/1997	N/A	N/A
HPFF_DPT18	339682	2501681	30.8	DEM	6/27/1997	N/A	N/A
HPFF_DPT19	339564	2501821	28.8	DEM	6/27/1997	N/A	N/A
HPFF_DPT20	339451	2501492	26.9	DEM	6/27/1997	N/A	N/A
HPFF_DPT21	339451	2501381	26.6	DEM	6/27/1997	N/A	N/A
HPFF_DPT22	340257	2501285	26.5	DEM	7/7/1997	9.0–12.0	BBUAQ
HPFF_DPT23	339371	2501266	26.9	DEM	7/7/1997	9.0–12.0	BBUAQ
HPFF_DPT24	339949	2501074	26.4	DEM	8/20/1997	N/A	N/A

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

Site name ¹	Location coordinates ²		Land-surface altitude, in feet above NGVD 29	Method of determining land-surface altitude	Completion date	Open interval, in feet below land surface	Contributing aquifer or confining unit
	North	East					
HPFF_DPT25	340028	2501179	26.7	DEM	8/20/1997	N/A	N/A
HPFF_DPT26	340006	2501198	25.5	DEM	8/20/1997	N/A	N/A
HPFF_DPT27	339580	2501190	27.2	DEM	8/20/1997	N/A	N/A
HPFF_DPT28	339551	2501241	27.4	DEM	8/20/1997	N/A	N/A
HPFF_DPT29	340339	2501385	27.3	DEM	8/20/1997	4.0–7.0	BBUAQ
HPFF_DPT30	339436	2501218	26.8	DEM	8/20/1997	N/A	N/A
HPFF_DPT31	339399	2501156	26.8	DEM	8/21/1997	N/A	N/A
HPFF_DPT32	339521	2501119	27.1	DEM	8/21/1997	N/A	N/A
HPFF_HP01	340090	2502260	29.5	DEM	10/20/1995	9.0–13.0	BBUAQ
HPFF_HP02	340200	2502156	28.7	DEM	10/20/1995	9.0–13.0	BBUAQ
HPFF_HP03	340031	2501963	28.6	DEM	10/23/1995	9.0–13.0	BBUAQ
HPFF_HP04	339922	2502072	29.5	R	10/23/1995	9.0–13.0	BBUAQ
HPFF_HP05	340115	2501894	27.7	DEM	10/24/1995	8.0–12.0	BBUAQ
HPFF_HP06	340187	2501972	28.6	DEM	10/24/1995	8.0–12.0	BBUAQ
HPFF_HP07	340289	2501881	29.3	DEM	10/24/1995	8.0–12.0	BBUAQ
HPFF_HP08	340197	2501784	29.2	DEM	10/25/1995	7.0–11.0	BBUAQ
HPFF_HP09	340080	2501643	29.5	R	10/25/1995	8.0–12.0	BBUAQ
HPFF_HP10	340221	2501636	29.5	R	10/25/1995	8.0–12.0	BBUAQ
HPFF_HP11	340089	2501483	27.9	DEM	10/25/1995	8.0–12.0	BBUAQ
HPFF_HP12	339935	2502230	28.4	DEM	10/27/1995	8.0–12.0	BBUAQ
HPFF_HP13	339741	2502170	29.3	DEM	10/27/1995	8.0–12.0	BBUAQ
HPFF_HP14	339694	2502052	30.2	DEM	10/27/1995	8.0–12.0	BBUAQ
HPFF_HP15	340229	2501459	27.3	DEM	10/31/1995	8.0–12.0	BBUAQ
HPFF_HP16	339918	2502349	27.8	DEM	11/2/1995	8.0–12.0	BBUAQ
HPFF_HP17	339829	2502271	28.3	DEM	11/2/1995	8.0–12.0	BBUAQ
HPFF_HP18	340268	2501298	26.4	DEM	11/2/1995	7.0–11.0	BBUAQ
HPFF_HP19	339503	2502122	30.2	DEM	11/20/1995	10.0–13.0	BBUAQ
HPFF_HP20	339268	2501871	30.6	DEM	11/20/1995	10.0–13.0	BBUAQ
TanksS889&S891_HP01	350244	2501048	22.4	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP02	350198	2501080	21.5	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP03	350146	2501014	21.5	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP04	350164	2501100	21.5	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP05	350087	2500999	20.6	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP06	350148	2501158	21.1	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP07	350088	2501119	19.9	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP08	349977	2501029	20.8	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP09	350021	2501180	16.7	DEM	11/26/1991	N/A	BBUAQ(?)
TanksS889&S891_HP10	349939	2501156	16.7	DEM	11/26/1991	N/A	BBUAQ(?)

Table D7. Sample interval, location, and contributing aquifer data for geoprobe/hydropunch samples collected at sites of RCRA investigations, Hadnot Point–Holcomb Boulevard study area, U.S. Marine Corps Base Camp Lejeune, North Carolina.— Continued

[RCRA, Resource Conservation and Recovery Act; NGVD 29, National Geodetic Vertical Datum of 1929; R, land-surface altitude reported in data sources; DEM, land-surface altitude estimated using a digital elevation model; date format is MM/DD/YYYY; BBLAQ, Brewster Boulevard lower aquifer; BBLCU, Brewster Boulevard lower confining unit; BBUAQ, Brewster Boulevard upper aquifer; BBUCU, Brewster Boulevard upper confining unit; TTAQ, Tarawa Terrace aquifer; N/A, data not available; AKA, also known as]

¹ See Faye et al. 2010 (Plate 1) for site locations. Names in parentheses after some of the site names refer to corporations or companies who installed the well

² Location coordinates are North Carolina State Plane coordinates, North American Datum of 1983

Data sources:

Building 21	Baker Environmental, Inc. 1993c (UST#45)
Building 33	Law Engineering, Inc. 1996a (UST#67)
Building 45/IR Site 84	Law Engineering, Inc. 1994a (UST#737); O'Brien and Gere Engineers, Inc. 1992b (UST#158)
Building 331	Law Engineering, Inc. 1996b (UST#63)
Building 645	Richard Catlin and Associates, Inc. 1996b (UST#710)
Building 728	Versar, Inc. 1992 (UST#735)
Building 820	Law Engineering, Inc. 1995a (UST#715), 1995c (UST#543)
Building 900	Law Engineering and Environmental Services, Inc. 1997d (UST#716)
Building 1106	Law Engineering and Environmental Services, Inc. 1997b (UST#68)
Building 1115	Richard Catlin and Associates, Inc. 1998a (UST#410), 1998b (UST#408)
Building 1450	Law Engineering and Environmental Services, Inc. 1997c (UST#164), 1997e (UST#78)
Building 1601	Richard Catlin and Associates, Inc. 1997a (UST#195)
Building 1613/IR Site 94	R.E. Wright Associates, Inc. 1994e (UST#76)
Building 1854	Richard Catlin and Associates, Inc. 1996c (UST#99)
Building 1880	Law Engineering and Environmental Services, Inc. 1996i (UST#86)
Building 5400	Law Engineering and Environmental Services, Inc. 1997f (UST#180)
Building FC40	Catlin Engineers and Scientists 2005b (UST#204079_FC40-3_ROF)
Building FC201	Law Engineering, Inc. 1994b (UST#750)
Building FC251	Richard Catlin and Associates, Inc. 1996d (UST#276)
Building FC263	Richard Catlin and Associates, Inc. 1995c (UST#139)
Building H19	Law Engineering and Environmental Services, Inc. 1997g (UST#374)
Building H30	Law Engineering and Environmental Services, Inc. 1996h (UST#758)
Building LCH4015	Law Engineering and Environmental Services, Inc. 1996a (UST#237)
Building LCH4022	Richard Catlin and Associates, Inc. 1995b (UST#152)
Building PT-5	Law Engineering and Environmental Services, Inc. 1996j
Building S1856	Richard Catlin and Associates, Inc. 1997b (UST#100), 2001 (UST#200)
Building SLCH4019	Law Engineering and Environmental Services, Inc. 1996g (UST#346)
HPFF	Catlin Engineers and Scientists 1998b (UST #456); Richard Catlin and Associates, Inc. 1997c (UST #457)
Tanks S889&S891	O'Brien and Gere Engineers, Inc. 1992a (UST#156)

